

JPRS-UAG-85-004

13 February 1985

USSR Report

AGRICULTURE

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LIVESTOCK FEED PROCUREMENT

UTILIZATION OF PASTURES, NATURAL FEEDLANDS NEGLECTED

Moscow IZVESTIYA in Russian 20 Nov 84 p 2

/Article by O. Pavlov: "Reserves Beyond the City's Edge"/

/Text/ Let us compare three figures: 606 million, 227 and 373 million hectares. The first -- the area of all of our agricultural land. The second -- the arable land on which grain, cotton, potatoes, sunflowers, corn, sugar beets, vegetables, flax and sown grasses are cultivated. And the third -- the natural feedlands that are provided to us by nature and can be viewed as a gift. And a considerable gift at that -- it exceeds the arable land area by a factor of almost 1.5. Meadows, pastures and the bottom land of rivers. And it also includes unsuitable land -- ravines, mountain slopes and gullies. Only the poetic forest glades, roadside areas and rights of way alongside railroad tracks are not included in the statistics furnished in the column entitled "Natural Feedlands." The remaining types must justify their purpose. Earlier, these lands were used by the peasants for providing feed for livestock and yet our modern peasants, when imbued with the proper initiative, interest and knowledge, is obligated to realize considerably more benefit from them.

The long-term improved and natural feedlands in Lithuania, Estonia and Latvia are furnishing an average of 60-80 and sometimes more quintals of feed units per hectare. That is, from 35-50 quintals of hay from 2-3 cuttings. Fine results are being obtained in Russia -- at kolkhozes and sovkhozes in a majority of the rayons in Stavropol Kray, the Tatar ASSR and in Leningrad, Vologda, Ivanovo and some other oblasts.

According to computations by VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/ scientists, in the Russian Federation alone no less than 60 percent of the hay, haylage and grass meal can and must be obtained from natural lands. The pastures and meadows of Russia are fully capable of supplying coarse and succulent feed for all of the livestock. Unfortunately, it does not turn out this way. In some regions of the Russian nonchernozem zone, for example, approximately one half of the natural lands quite often are not mown, nor is sensible grazing of the cattle the rule. During the October (1984) Plenum of the party's central committee, the general secretary of the CPSU Central Committee Comrade K.U. Chernenko stated: "An urgent task is that of restoring order to the natural feedlands. As is known, they constitute a vast area. It is simply impossible to exaggerate the reserves represented by

this truly inexhaustible storehouse of natural feed. Urgent measures must be employed in a persistent manner, using all resources, if improvements are to be realized in the productivity of the meadows and pastures."

It goes without saying that we are achieving progress in feed production. Today it is an independent branch at the kolkhozes and sovkhozes and it has powerful state enterprises which operate on the basis of cooperation. However, it is important to know that the farms obtain the principal bulk of their forage not from natural lands but rather from arable land. Approximately 70 million hectares of this land -- almost one third -- are used for feed purposes. Grasses and other components of the livestock ration can be obtained more easily from arable land, the machines can be operated better and fewer transport vehicles are required. But at the same time, large quantities of land are removed from use in behalf of grain crops, technical crops and vegetables.

The statistics provide no basis for flattering ourselves. On the whole, the meadows and pastures are still of low productivity. Radical improvements in the country's natural lands have been carried out on only 21 million hectares, of which amount 6 million hectares have been drained and 1.3 million hectares can be irrigated. Nor is the term "can" a random choice. Even on our arable land, by no means does irrigation always meet the technological requirements, with the planned yields being obtained only on one third of the irrigated lands. During this current five-year plan, as an annual average for the country as a whole, more than 1.5 million hectares of irrigated land were not used and were not irrigated. The situation is even more serious in the case of natural lands.

This is not the first time that we have discussed this problem on the pages of IZVESTIYA. Why is it such an acute problem today? Mainly because the opportunities for expanding the feed fields on arable land have been exhausted. The scientists and practical workers, taking into account the local soils and climate, are even recommending that the proportion of feed lands be lowered in some areas, while improving their structure and balance, providing a clear path for high protein crops, making more extensive use of repeated and intermediate sowings and improving the operation of irrigated lands.

There are also other reserves for feed production. But one of the most important -- at the present time and in the future -- more efficient use of natural lands. Unfortunately, the attitude towards these lands by Minvodkhoz /Ministry of Land Reclamation and Water Resources/, Minzel'khoz /Ministry of Tractor and Agricultural Machine Building/ and Minzhivmash /Ministry of Machine Building for Animal Husbandry and Fodder Production/ is cool.

Over the past 10 years, the organizations of Glavnechernozemstroy -- one of the largest subunits of USSR Minvodkhoz -- have not fulfilled their plans for the use of capital investments and the placing in operation of improved lands. During the last 3 years of the present five-year plan, the land reclamation specialists of Russia failed to supply the farms with almost 1 million hectares of land to be used for cultivated pastures. But whereas the creation of such pastures is labor-intensive and complicated from an engineering standpoint, the carrying out of soil improvement work requires less effort, is less expensive and at the same time it is extremely effective: soil improvement work makes it possible to raise the cropping power of land by a factor of 1.5-2. This is why the long-term program for land reclamation work calls for a

considerable increase in the volumes of soil improvement work. During the 12th Five-Year Plan, such work must be carried out on an area in excess of 8 million hectares. This is more than one third greater than the work carried out during all previous years.

But the carrying out of this task requires a psychological reorganization in the subunits of Minvodkhoz. There is a paradox: prior to the creation of the powerful production base of Glavnechernozemvodstroy, more soil improvement work was carried out than is presently the case. At that time the mobile columns of Minvodkhoz did not have such highly productive excavating, levelling and other machines. They were thus forced to carry out more soil improvement work. Today this has turned out to be less advantageous. And the result: during the first 3 years of the current five-year plan, the subunits of the main administration should have carried out improvements on approximately one million hectares of natural lands and yet they carried out work on only one fifth of this amount.

Again in 1984 the ministry tasked its subunits with carrying out less soil improvement work than the previous year. Nor had Glavnechernozemvodstroy "fallen behind" -- it also lowered the task for its mechanized columns. But once again, even the lowered tasks were not fulfilled in some areas.

The land reclamation specialists usually maintain that they lack the personnel required for carrying out work on the meadows and pastures. The kolkhozes and sovkhoses claim that they lack the required equipment. Both sides are correct. The RAPO's /rayon agroindustrial associations/ inherited the burden of these mutual claims from the agricultural administrations. Certainly, it would be easy for each to blame the other for the inactivity. On the other hand, initiative was displayed in Ivanovo Oblast. Here the required machines were assembled together and the soil improvement work was carried out thanks to the efforts of the farms. The improved lands were credited to Glavnechernozemvodstroy: the resources for this work were allocated by the state and the farm was entitled to request reimbursement for its expenditures. It bears mentioning that the land reclamation specialists proceeded to do this without resistance.

I am not certain that this was the optimum solution. But nevertheless, today the farmers, land reclamation specialists, Sel'khozkhimiya and Sel'khoztekhnika are all under the same APK /agroindustrial complex/ roof. More improved forms must be sought for the cost accounting relationships among partners. The decisions handed down during the October (1984) Plenum of the party's central committee called for this to be done. The CPSU Central Committee and the Council of Ministers considered it advisable to establish the contractual obligations of the kolkhozes and sovkhoses, aquicultural organizations, operational services and rayon agroindustrial associations with regard to the utilization of improved lands. The obligations and responsibility called for are mutual. Importance is attached to ensuring that departmental coordination of the collaboration conditions is not dragged out for too long a period.

In improving the natural lands and raising their cropping power, a great deal depends upon the machine builders. Quite often, the equipment which they are still producing is of low productivity and does not permit the use of optimum technological solutions. For example, brush cutters, stump pullers and special

harrows are being produced in turn for the purpose of removing undergrowth from meadows. Many operations are involved here. They increase the production costs for the work and they cause damage to the soil. Rotary tilling would be considerably more advantageous. But the rotary plows presently being produced by industry are energy-intensive and not highly productive. At the same time, state testing was carried out successfully in 1979 on a rotary tilling machine which surpasses the productivity of the present machine by twofold, its energy-intensiveness is lower by a factor of 2-2.5 and its metal-intensiveness -- lower by a factor of 1.9. But this machine has yet to be assigned to production.

This is only one example. And there are many of them. Several unconnected laboratories and a design bureau of Sibsels'mash are working on mechanization technologies and means for use on meadows and pastures. As a result, a single technical policy for use in this work has yet to be established. Today, neither in Minsel'khoz /Ministry of Agriculture/, Minsel'khoz mash nor USSR Minzhivmash, have specific individuals been assigned responsibility for the development and production of an effective complex of equipment for use on natural lands.

In discussing such serious problems, one cannot ignore the position taken by the new organs of administration -- RAPO's -- and some local soviets. The problems of feed production are still not being studied thoroughly in all areas. At times, there is an absence of basic organizational ability. Unfortunately, during this year's hot summer the first cutting of grasses was simply overlooked in some areas. The task of exercising control over the use of meadows and even irrigated lands was neglected in many regions. Our correspondents in the various areas and our readers have reported that it is only rarely that the RAPO and farm specialists are able to knowledgeably determine the types of grass seed required for sowing their meadows and pastures. It is more convenient for the seed to be received from another source. And what about initiative and the reproduction of seed in the various areas? The sooner we reject the campaigns that are dear to the hearts of some leaders, campaigns concerned with the procurement of ramal feed and common reeds and the transporting of straw over hundreds of kilometers, the better off we will be. The feed reserves are solid and considerable and quite often they are to be found beyond the city's edge.

7026

CSO: 1824/154

LIVESTOCK

JANUARY-NOVEMBER 1984 STOCKRAISING FIGURES REVIEWED

PM041236 Moscow ECKONOMICHESKAYA GAZETA in Russian No 52, Dec 84 (signed to Press 17 Dec 84) p 11

[Unattributed "Statistical Summary"; "Stockraising on Kolkhozes and Sovkhozes"]

[Text] The editorial office has obtained the USSR Central Statistical Administration's figures on the stockraising situation on kolkhozes and sovkhozes in January-November 1984.

The country's kolkhozes and sovkhozes insured the smooth transfer of stock units to livestock wintering conditions. Competition spread among stock unit workers everywhere to increase the output of milk and meat and reduce the prime costs of stock units' output.

I. Production of Livestock Products

In January-November this year the country's kolkhozes and sovkhozes had the following results in the production of livestock products:

<u>Indicators</u>	<u>January- November 1984</u>	<u>January-November 1984 as percentage of January-November 1983</u>
Meat production (sale of livestock and poultry for slaughter, live weight) thousand metric tons	16,223	105
Of which: Cattle	9,096	104
Pigs	4,087	107
Sheep and goats	1,047	103
Poultry	1,993	105
Gross milk yield, thousand metric tons	64,087	102
Average milk yield per cow--kg	2,264	102
Hen eggs--millions	48,150	103
Average egg yield of laying hens--units	196	101

Kolkhoz and sovkhoz meat production increased by 722,000 metric tons in comparison with the same period last year. Meat production increased on farms in all union republics except Uzbekistan.

The greatest increase in meat production in the RSFSR was achieved by farms in Vladimir, Ivanovo, Kaluga, Kostroma, Tula, Gorkiy, Perm, Belgorod, Sakhalin, Kuybyshev, Penza and Kamchatka oblasts, the Mordovian, North Osetian, Chuvash and Mari ASSR's, Krasnodar and Maritime krais, and a number of other autonomous republics, krais and oblasts.

Gross milk yield for the first 11 months of this year was 984,000 metric tons higher than in January-November last year. The greatest increase in milk production was achieved by dairy farm workers in Latvia, Moldavia, Lithuania, Belorussia, Kirghizia, Estonia and Azerbaijan.

In the RSFSR the greatest increase in milk production was achieved by kolkhozes and sovkhozes in Murmansk, Leningrad, Ivanovo, Novgorod, Moscow, Kaluga, Kostroma, Tula, Kuybyshev, Irkutsk, Gorkiy, Novosibirsk and Kaliningrad oblasts, Krasnodar and Altay krais, the Karelian ASSR, and elsewhere.

Egg production on kolkhozes and sovkhozes between January and November 1984 increased by 1.32 million in comparison with the same period last year. The greatest increase in egg production was achieved by farms in Kirghizia, Azerbaijan, Moldavia, Latvia, Tajikistan, Kazakhstan, Georgia, Armenia, Turkmenistan and Lithuania.

[PMO41238] II. Purchases of Livestock Products on Kolkhozes, Sovkhozes and Other State Farms

<u>Types of product purchased</u>	<u>Purchased during January-November 1984</u>	<u>January-November 1984 as percentage of January-November 1983</u>
Livestock and poultry (live weight)-- thousand metric tons	16,099	105
Milk--thousand metric tons	61,860	105
Eggs--millions	45,801	103

The volume of livestock and poultry sales to the state by kolkhozes, sovkhozes, and other state farms increased by 707,000 metric tons during the first 11 months of 1984 in comparison with the same period last year. Livestock and poultry sales increased on farms in all union republics except Uzbekistan.

In the RSFSR there was a considerable increase in livestock and poultry purchases on farms in Belgorod Oblast, the Chuvash ASSR, Ivanovo Oblast, Krasnodar Kray, Kuybyshev, Perm, Kaluga, and Gorkiy oblasts, the Mordovian ASSR, Penza and Vladimir oblasts, Maritime kray, and Kostroma, Tula, Kursk, Tambov, Sratov, Tomsk, Irkutsk, and other oblasts.

Purchases of milk and dairy products increased by 2,723,000 metric tons. The greatest rate of increase in purchases of milk and dairy products occurred on kolkhozes and sovkhozes in Latvia, Lithuania, Belorussia, the Ukraine, Azerbaijan, Moldavia and Estonia.

Egg sales to the state during January-November 1984 increased by 1,133 million in comparison with the same period last year. In terms of the rate of growth of egg purchases the leading farms are in Tajikistan, Kirghizia and Azerbaijan.

III. Production and Purchases of Livestock Products by Union Republic

Union republic	January-November 1984 as percentage of January-November 1983					
	Production			Purchases		
	Meat	Milk	Eggs	Livestock and poultry	Milk	Eggs
USSR	105	102	103	105	105	103
RSFSR	104	100.3	102	104	102	103
Of which the Nonchernozem Zone	105	102	102	105	104	103
Ukrainian SSR	105	102	102	104	108	102
Belorussian SSR	109	106	102	110	109	100.1
Uzbek SSR	96	90	102	98	94	101
Kazakh SSR	102	101	106	100.1	103	102
Georgian SSR	106	101	106	107	102	97
Azerbaijan SSR	103	104	108	106	109	108
Lithuanian SSR	112	106	104	111	110	104
Moldavian SSR	108	107	107	108	107	104
Latvian SSR	109	109	107	108	111	106
Kirghiz SSR	109	105	111	107	105	108
Tajik SSR	102	102	107	101	103	109
Armenian SSR	104	100.8	104	104	102	105
Turkmen SSR	105	99.9	104	106	102	105
Estonian SSR	109	105	101	109	106	100.4

In addition, procurement organizations purchased 724,000 metric tons of milk and 582,000 metric tons of livestock from the population's personal plots.

[PM041240] IV. Livestock Numbers

On 1 December 1984 there were 94.6 million head of cattle on kolkhozes and sovkhozes, which is 1.8 million more than on the same date last year. There were 29.6 million cows. The pig herd totaled 60.1 million, or an increase of 0.6 million. Sheep and goats numbered 115.8 million. The number of poultry was 737.6 million, which is 27.7 million more than last year.

The number of cattle increased on kolkhozes and sovkhozes in all union republics except Estonia. The pig herd increased on kolkhozes and sovkhozes in most union republics, except on farms in Belorussia, Uzbekistan, Lithuania and Estonia. The number of sheep and goats increased on farms in the Ukraine, Belorussia, Lithuania, Moldavia, Latvia and Kirghizia. Poultry numbers increased on farms in all union republics except Armenia and Turkmenistan.

Comrade K.U. Chernenko emphasized in his speech to the CPSU Central Committee October (1984) plenum that now it is important to utilize all opportunities to insure successful livestock wintering and prevent even the slightest fall in the production and procurement of livestock products.

Thanks to the thorough preparation of feed in feed shops and solicitious tending of the livestock, the leading farms are achieving maximum livestock productivity while keeping feed consumption at the same level. This experience must be introduced everywhere, thus insuring the increased efficiency of stockraising during the winter period.

CSO: 1824/157

LIVESTOCK

UDC 63.001.5

PROGRESS, APPLICATION OF ESTONIAN CATTLE BREEDING RESEARCH

Moscow ZHIVOTNOVODSTVO in Russian No 11, Nov 84 pp 2-4

Article by E.K. Val'dman, director of the Estonian Scientific Research Institute of Livestock Breeding and Veterinary Science and VASKhNIL Academician: "Link Between Science and Practical Work"/

Text All elements of the Estonian Agroindustrial Association are intensifying their efforts aimed at implementing the country's Food Program. The scientists of EstNIIZhV /Estonian Scientific Research Institute of Livestock Breeding and Veterinary Science/, who are engaged in developing progressive systems for animal husbandry management, are making their own contribution towards furthering this work.

Cattle husbandry is the republic's leading branch of animal husbandry and thus the development of a progressive system for cattle husbandry management, one which meets the requirements for socialist large-scale production, and its introduction into operations on the farms, occupy an important place in the theme program for scientific research work by EstNIIZhV. The institute's scientists have proposed a scientifically sound system for animal husbandry management in the Estonian SSR during the 11th and 12th five-year plans and they have substantiated the trends and tasks for developing animal husbandry throughout the republic and the measures for carrying them out.

The task for the further development of cattle husbandry, from a scientific point of view, must be solved by the republic's all-round program entitled "System for the Intensive Management of Cattle Husbandry Under Industrial Production Conditions." For the purpose of carrying out this task, the efforts of several of the republic's scientific institute have been combined -- Estonian NIIZhV (as the coordinating center), Estonian Agricultural Academy, Institute of Experimental Biology, Institute of Economics of the ESSR Academy of Sciences, planning organizations, ministries, the ESSR Agroindustrial Association and experimental and support-demonstration farms.

Breeding work is the foundation for highly productive cattle husbandry. Pedigree cattle of the red and black-variegated Estonian strains are being maintained on the republic's farms.

The management of breeding work and control over such work in the republic are being carried out by the republic's APO /agroindustrial association/. The state

breeding grounds for red and black-variegated Estonian cattle are directing and controlling the breeding of individual cattle strains on the breeding farms.

The most important levers for controlling breeding operations are concentrated at EstNIIZhV. The institute's system includes a breeding center and this makes it possible to introduce effectively, into operations on the farms, the positive results achieved in breeding work.

All artificial insemination stations operate on the basis of the institute's experimental farms. Their work is directed by the institute's Department of Reproduction Biology.

The Reproduction Department, jointly with the state breeding grounds, is responsible for the pedigree value of the bulls used. The selection and control over the authenticity of parentage, raising, checking and evaluating the offspring of the bulls intended for artificial insemination stations are carried out by the Breeding Sector and Immunogenetics Laboratory of this department. The raising of pedigree young bulls is carried out under the direction of the Breeding Sector at the institute's experimental farms and a check is carried out on the bulls for the quality of their offspring in the herds of experimental farms and also in the better herds of farms throughout the republic.

The milk is analyzed monthly in the cost accounting laboratory to determine its fat and protein content, with use being made of individual milk samples of the milk of cows from all farms throughout the republic.

For the purpose of improving the herds, using mass selection, a unified system has been developed for carrying out breeding accounting and control over the productivity of the animals, that includes both the milking herd and pedigree young stock. The processing and analysis of the data is carried out at the institute. Jointly with the state breeding grounds, the institute prepared an all-round plan for breeding Estonian strains of cattle for the future. The institute's breeding center for cattle unites the activities of all of the above-mentioned departments, sectors and laboratories.

At the present time, more than 80 percent of the cows and heifers on the republic's farms are being inseminated using the sperm of improved bulls, which were evaluated in terms of the quality of their offspring. The artificial insemination stations are ensuring that all farms throughout the republic, including cattle being raised in the private sector, are being supplied with high quality semen. Over a period of 10 years, use has been made only of deep-frozen sperm.

The genetic potential of the cattle has increased noticeably over a period of 20 years. At the present time, the percentage of pure-bred cows in the republic is 88.7 percent, their milk yield is 3,700 kilograms and the fat content of the milk -- 3.98 percent.

The fine genetic potential of both strains is borne out by the fact that the milk yields increased considerably during the 1982/83 winter period when a better supply of feed was made available to the animals. In 1983, the proportion of 1st grade milk in the republic reached 94 percent.

Recommendations are being developed in the cattle husbandry, mechanization and veterinary science departments for the maintenance (raising) of cattle and the use of technologies on the farms.

Industrial farms of a different type have been designed in the institute's special design bureau and they have been built at experimental farms. Two principal types of farms and methods for maintaining a dairy herd have been introduced into operations at the present time.

The first type -- the farm has two cowbarns, each capable of accommodating 230 animals. The maintenance of the animals is tethered and milking -- a milk line. Feed distribution, removal of manure and spreading of litter are carried out by mobile means. The labor expenditures for the production of 1 quintal of milk at such a farm are 2-2.5 man-hours.

The second type of farm -- two cowbarns for 300 or 400 animals each for the milking herd and a cowbarn with a birthing department and space for dry cows and young calves. On such a farm, the animals are kept in mixed boxes and the cows are milked on milking platforms. The principal operations are carried out by mobile units. Labor expenditures for the production of 1 quintal of milk amount to 1.6-2.2 hours. This level has already been achieved at the best farms.

The technological lines are being improved. The initial automatic milking units have been introduced into operations and this work is continuing according to plan. The use of delta-scrapers and piston pumps for removing manure is being expanded. The modernization of boilers which operate on liquid and solid fuel and also automatically controlled electric boilers is continuing.

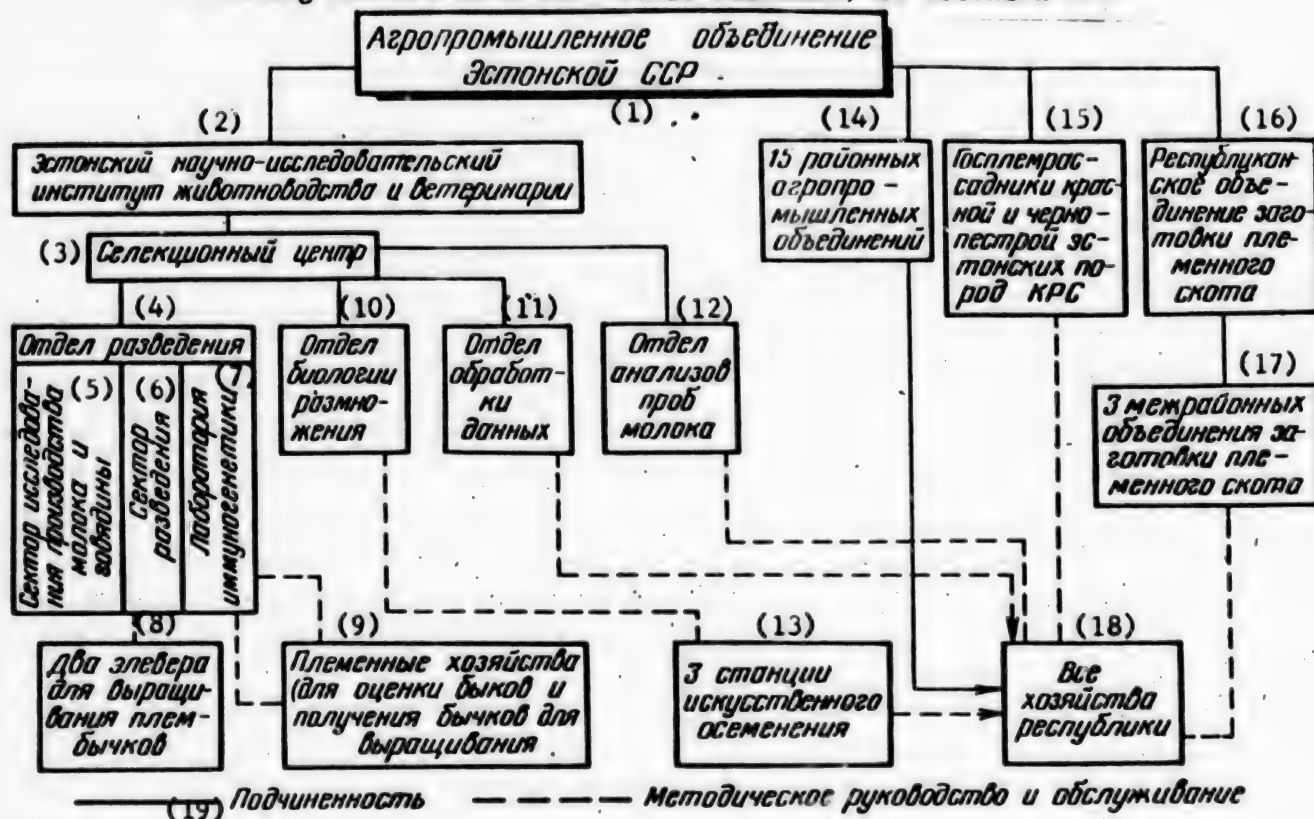
At the present time, almost one half of the republic's dairy herd is still being maintained in old facilities and thus their modernization constitutes a considerable reserve for increasing production. Solutions have been developed at EstNIIzhV for modernizing the most widely used cattle husbandry buildings.

Specialization and concentration in animal husbandry have made it possible to organize production in a better manner and also to improve the indicators for labor productivity. Compared to 1975, the expenses for producing 1 quintal of milk have decreased at sovkhoses from 4.1 to 3.5 hours and at kolkhoses -- from 4.1 to 3.3 hours.

The economic indicators for dairy complexes are constantly improving. At 280 large dairy farms, where roughly 50 percent of the overall number of cows at kolkhoses and sovkhoses throughout the republic are being raised, the milk yield per cow in 1983 amounted to an average of 3,643 kilograms. The average milk yield for cows at the best complexes amounts to more than 5,000 kilograms of milk annually and labor expenditures -- approximately 2 hours.

The immediate tasks -- improving the technology, uncovering and eliminating the shortcomings being encountered in the work of the complexes and raising labor productivity in a manner such that labor expenditures for the production of 1 quintal of milk in future years in the republic will not exceed 2.5 quintals.

Breeding Service Plan for Cattle Husbandry in Estonian SSR



Key:

- | | |
|--|--|
| 1. Agroindustrial Association of Estonian SSR | 10. Department of Biology Reproduction |
| 2. Estonian Scientific Research Institute of Animal Husbandry and Veterinary Science | 11. Data Processing Department |
| 3. Breeding center | 12. Department for Analysis of Milk Samples |
| 4. Breeding department | 13. 3 artificial insemination stations |
| 5. Sector for study of milk and beef production | 14. 15 rayon agroindustrial associations |
| 6. Breeding sector | 15. State breeding grounds for red and black-variegated strains of Estonian cattle |
| 7. Immunogenetics laboratory | 16. Republic association for procurement of pedigree cattle |
| 8. Two elevators for raising of young pedigree bulls | 17. 3 inter-rayon associations for procurement of pedigree cattle |
| 9. Breeding farms for evaluating bulls and for obtaining young bulls for raising | 18. All of the republic's farms |
| | 19. Subordination --- methodical management and services |

Breeding work in swine husbandry is being carried out in close association with the Department of Selection-Breeding Work of the republic's APO, the state breeding grounds and breeding farms, a control-experimental station for swine husbandry, a station for the artificial insemination of hogs of EstNIIZhV and also an association for the procurement of pedigree animals.

Hogs of the Estonian bacon strain and the large white strain are being bred in Estonia. Pedigree hogs are being raised on 93 breeding farms. Each year the

breeding farms are evaluated by an appropriate committee and their affiliation with the different classes (I, II, III) or candidates for converting over to breeding farms is defined more exactly. Seventy three percent of the hogs of the large white strain and 27 percent of the hogs of the Estonian bacon strain are being maintained at breeding farms. The breeding farms are not large and usually do not accommodate more than 4,000 head.

For a long period of time now, checks have been carried out on the offspring of pedigree hogs at a control-experimental station of the institute at Kekhtne.

As a result, an increase has taken place in the proportion of offspring of improved boars among the overall number of hogs at commodity farms. For example, in 1983, on commodity farms in the zone of use of the Estonian bacon strain, the proportion of offspring of improved boars compared to the overall number of boars in use was 76 percent (in Khiumaaskiy Rayon -- 100 percent). In the zone of distribution of the large white strain, the offspring of checked improved boars amounted to 30 percent (in Tartuskiy Rayon -- 67 percent).

The presence in the republic of two strains of hogs is making it possible to employ inter-strain crossings. In 1983, more than 130,000 hybrid young pigs were obtained. Three complexes for the raising of young pigs, with a planned capacity for 24,000 head annually have been built and are partially in the completion stage.

The institute's Department of Swine Husbandry has been engaged for some time in developing the principles for a progressive swine husbandry system and introducing it into operations on farms and at farm complexes. It is known as a system of isolated hog maintenance.

The system calls for the separate maintenance of various production and age groups of animals, taking into account their feed requirements and the demands with regard to maintenance and care. The introduction of the system of isolated maintenance into operations is accompanied by an increase in the veterinary-sanitary requirements. For example, pigsties (sections) are used according to the principle "empty - occupied," indispensable parts of which are mechanical cleaning and disinfection of the facilities. The hog breeders specialize in servicing one particular group of animals. This has a positive effect on the economic results.

The system of isolated hog maintenance developed at EstNIIZhV is suitable for use at hog farms, hog reproduction farms and at hog complexes having closed production cycles. For the purpose of accelerating the introduction of this system into use at kolkhozes and sovkhoses, the rating of hog raising facilities was carried out. In 1977-1978, the institute's scientists, jointly with Estkolkhozstroyproyekt specialists, carried out a technical-economic computation on growth in hog production in the Estonian SSR during the 11th and 12th five-year plans, which is corrected periodically. At the present time, one fifth of the republic's farms, farms with a closed production cycle, are capable of producing 600 tons or more of pork annually. On such farms, the barren period for females is reduced to the maximum possible degree and their intensive use guaranteed.

In addition, interfarm reproduction facilities have been created having a capability for producing 24,000 young pigs annually. Such farms are in

operation in Yygevaskiy, Raplaskiy and Pylvaskiy rayons. The introduction of efficient feeding and maintenance methods for sows has made it possible to lower production expenses per ruble of output by one third compared to similar farms throughout the country and to raise labor productivity in like manner.

The technologically supplemented system of isolated hog maintenance is being employed successfully at a hog raising combine of the Experimental-Demonstration Sovkhoz Technical School imeni Yu. Gagarin in Vilyandiskiy Rayon and at the Pyarnu Interfarm Hog Farm. The former was built in 1971-1976 and its planned capability is 54,000 quintals of pork annually and the latter -- in 1972-1976 and 43,000 quintals of pork annually.

Overall, it can be stated that hog raising in the Estonian SSR during this modern stage of development is characterized by intense production specialization and concentration, in which the system of isolated maintenance of hogs by sex and age groups, together with maximum use of internally produced feed and improvements in breeding work, is ensuring a sharp increase in the production of pork.

The republic's livestock breeders are striving to raise still further the productivity of the livestock and the return being realized from each hectare of field. The efforts of the EstNIIZhV collective are being directed towards achieving these goals.

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CSO: 1824/150

LIVESTOCK

EFFICIENCY OF BELORUSSIAN DAIRY CATTLE RAISING EVALUATED

Minsk SEL'SKOYE KHOZYAYSTVO BELORUSSII in Russian No 11, Nov 84 pp 8-9

[Article by A.P. Svyatogor, head of Sector on Economic Problems of Feed Production and Livestock Husbandry of BelNILEOSKh and V.S. Petkevich, senior scientific worker: "Effective Development for Dairy Cattle Husbandry"]

[Text] Dairy cattle husbandry is the republic's leading branch of agriculture. At the kolkhozes and sovkhoses, the density of cows per 100 hectares of agricultural land is rather high. At the same time, the genetic potential of the public herd, despite the fact that up to 50 percent of the branch's labor resources and 40-45 percent of its livestock husbandry logistical resources are being expended here, is not being utilized fully. In other words, agriculture is suffering a shortfall in milk of 30-40 percent

The principal reason for this shortfall in livestock husbandry output -- existing disproportions between the number of animals, the quantity and quality of the feed being procured and the feeding level for the animals. Up until now, some farms in the republic have been expending only 26-29 quintals of feed units per cow annually, whereas 40-50 quintals are required. A large portion of the feed is being used not for obtaining output but rather for maintaining the lives of the animals. Thus the milk yields per cow are not exceeding 1,500-2,000 kilograms and the production cost for the milk has reached 30-35 rubles per quintal and more.

The overall annual total amount of expenditures per cow, including the cost of the feed, the wages for workers and other expenditures, amounts to 800-1,000 rubles. These expenditures could be higher, but they are effective provided that not less than 4.2-4.5 kilograms of milk are obtained for each ruble of expenditure. For such expenses, the milk yield per cow must be 3,500-4,500 kilograms and the production cost per quintal of product -- 22-23 rubles.

Milk production at the leading farms is being carried out at just such a level. Thus, at the Kolkhoz Imeni Kirov in Slutskiy Rayon, where a truly thrifty attitude towards the land prevails, feed production is developing at an intensive rate. Over a period of three five-year plans, this farm has been obtaining 28-35 quintals of grain per hectare, 210-230 quintals of perennial grass fodder and 30-40 quintals of hay from each hectare of meadow land. Forty quintals of feed units are being expended per cow annually and this is producing a milk yield on the order of 3,500-3,600 kilograms, at a production cost of 20-21 rubles per quintal.

One half of the farm's gross milk production is obtained during the pasture period. A cheap pasture ration that is balanced in terms of protein and other nutrients makes it possible, during both the summer and winter, to utilize the feed in a thrifty manner. Roughly 1.0-1.1 quintals of feed units are expended throughout the year per quintal of milk. Moreover, the cost of the feed per quintal of milk does not exceed 8-9 rubles and this figure is less by a factor of 1.5 than that for a majority of the republic's farms. The milk yield per 100 hectares of agricultural land, for a density of 31 cows, is 1,100 quintals.

Dairy cattle husbandry operations are being carried out in an efficient manner at the kolkhozes imeni Gastello in Minskiy Rayon and imeni Timiryazev in Kopylskiy Rayon, where the productivity level for farming and livestock husbandry is even higher. At the Kolkhoz imeni Timiryazev, for example, the average annual milk yield per cow is 3,900-4,000 kilograms. The production cost for 1 quintal of milk is 20-22 rubles.

The experience of leading farms reveals that the development of the productive forces of each kolkhoz and sovkhoz is entirely dependent upon strict observance of the organic interrelationship that exists between farming and livestock husbandry. If this relationship is maintained, then an improvement will take place in the fertility of the land and increases will be noted in the production of feed and livestock products. Only intensive and highly productive livestock husbandry operations make it possible to apply greater quantities of farmyard manure to the soil and, on this basis, to raise the agricultural crop yields and increase the production of the required feed.

For the intensive development of dairy cattle husbandry, the actual volume of feed used must be increased during the next few years by not less than 30 percent and on farms with a low feeding level -- by 50 percent. Towards this end and in the interest of increasing the productivity of each hectare of feed land, it will be necessary to eliminate all channels for possible losses. And indeed these losses are great. It has been estimated that the losses which occur during the stage given to harvesting the crop and storing the feed amount to 1.3-1.5 million tons of feed units. This is equivalent to eliminating from a farm's calculations the results obtained from the operation of 200-250 hectares of agricultural land area.

On many farms, a need exists for accelerating the creation of a production base for the storage of feed. Computations and practical experience have shown that the construction of storehouses is economically advantageous, since they serve to protect the labor and resources expended for the production and procurement of feed. For example, the operational expenses for storing 1 ton of hay (taking into account capital expenditures) in standard storehouse facilities amount to 8-10 rubles, a maximum of 16 rubles if costly buildings are erected and the production of a ton of hay costs 30-40 rubles. The capital investments for the construction of storehouses are repaid, as a result of the products saved, within a period of 2.5-6.5 years.

Under the conditions existing in our republic and with regard to milk production, great importance is attached to making maximum use of pasture feed in view of the fact that it is richer in content and less costly. In this regard, a positive role must be played by the allocation of increasing volumes

of mineral fertilizers for use on the pasture and haying lands. The organization and efficient use of irrigated pastures is considered to be an effective means for raising the efficiency of dairy cattle husbandry.

For the production of a maximum amount of milk during the summer on all farms, priority importance must be attached to the green production line. As a result of this line, the Kolkhos Imeni Gastello in Minskiy Rayon obtains 2,200-2,300 kilograms of milk per cow during the pasture season. Here the daily milk yield per cow during the pasture period amounts to an average of 15 kilograms.

The dairy herd grazes on productive and good quality grass pastures. Cows' food and clover-cereal grass mixtures ensure early and intensive development of the fodder. The pastures are located in the vicinity of the farms and are divided up into individual plots. The grazing is carried out on an individual plot basis with use being made of movable electric fencing. The wages paid to the shepherds are directly dependent upon the quantity and quality of the milk obtained. The tending of a pasture is carried out by a specialized team consisting of six machine operators and the required equipment. Excluding the pastures, 170 hectares of which are irrigated, this year the green production line will include sowings of annual leguminous-cereal grass mixtures, spring rape, corn, clover-cereal grass mixtures, the aftergrowth of perennial grasses and the haulm of root crops.

A large reserve for increasing milk production of the farms is that of improving the reproduction of the cattle herd and culling out sick, old and barren cows and replacing them with highly productive heifers. Almost one out of every five cows in the public sector is barren. It was for this reason that the republic's agriculture, during 1983, suffered a shortfall of 360,000 tons of milk and 320,000 head of offspring, the overall value of which was 128 million rubles. The zootechnical and veterinary services for the farms must bring about radical changes in the situation with regard to the raising of replacement young stock. First of all, the feeding level for these animals must be raised such that they attain a live weight of 350-360 kilograms by the time they are 16-18 months of age; intensive feeding for all young stock must be ensured and the farm workers must display greater material responsibility for impregnation of the cows.

In view of the increase that has taken place in the productive forces and assuming that they are used in an efficient manner on all farms throughout the republic, a real opportunity exists for raising the effectiveness of dairy cattle husbandry, achieving a substantial increase in feed production, improving the feed structure and quality and for obtaining annually per cow: hay -- 1-1.5 tons, coarse feed -- 2.5-3 tons, silage -- 2.5-3 tons and concentrates (mixed feeds) -- 1-1.2 tons, root crops -- in the volumes required; during the pasture period, to feed 60-70 kilograms of fodder daily, to produce the required amount of protein-vitamin components for enriching the grain forage and balancing the entire feed ration in terms of protein, sugar, amino acid structure and other nutrients. The resources of farms, the system of economic stimuli and the organizational-technical measures must all be directed towards the development of a highly productive dairy herd.

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LIVESTOCK

IMPROVE EFFICIENCY OF INDUSTRIALIZED POULTRY RAISING

Moscow PRAVDA in Russian 25 Dec 84 p 3

/Article by I. Bakhtin, chief of USSR Poultry Raising Industry Administration:
"Country's Dietetic Department"/

/Text/ One of the country's largest poultry factories -- Borovskiy -- is located 8 kilometers from Tyumen. Neat asphalt roads lead up to single and multiple-story production buildings surrounded by flower gardens and decorative shrubs. A settlement of the municipal type, possessing all municipal and domestic conveniences, stands not far from the factory.

The work carried out by the collective is on a par with its external appearance. Each year the factory's departments produce approximately one half billion eggs. The director of the poultry factory, Candidate of Agricultural Sciences A. Sazonov, together with many skilled and energetic specialists, carries out constant improvements in the production operations. The annual productivity of the chickens has reached 254 eggs.

And the working conditions have truly changed! Earlier, one individual tended 2,000-3,000 chickens and obtained 300,000-400,000 eggs from them annually. Today an operator services 20,000-25,000 laying hens and obtains 5-6 million eggs. These are true advances -- the result of technical progress. Certainly, they became possible coincidental with the branch being converted over to the industrial work methods. The Borovskiy workers raise their laying hens in multiple-tier batteries of cages and with all processes mechanized.

This example describes the great changes which have taken place in the branch during the two decades that have elapsed since the creation of USSR Ptitseprom /Poultry Raising Industry Administration/. The party and government planned and carried out large-scale measures concerned with the construction, expansion and modernization of existing farms. The industrial technology has been mastered in all areas. At the present time, our system brings together 1,511 specialized enterprises and 522 incubator-poultry raising stations. They account for 86 percent of all state egg procurements and for 89 percent of the poultry meat procurements.

We have our own scientific base -- the All-Union Scientific Research and Technological Institute of Poultry Raising, the All-Union Scientific Research Veterinary Institute of Poultry Raising and eight zonal breeding stations.

They develop new technologies, create flocks of highly productive poultry and carry out the orders of farms.

Over the course of two decades, we spent 19.9 billion rubles developing the logistical base. The profit has exceeded 19 billion rubles, that is, the funds invested have been repaid completely. The production profitability for the eggs has been raised to 58 percent and that for poultry meat -- to 36 percent. Improvements have also been carried out in many other of the branch's indicators.

It would be impossible to realize such accomplishments in the absence of reliable personnel. We are devoting a great amount of attention to their training, selection and placement. The poultry breeder ranks contain many heroes of socialist labor and laureates of the USSR State Prize. Included among them are the general director of the Minsk Production Association K. Dubovskiy, operator M. David at the Tura-Galveneyanskaya Poultry Factors in Moldavia, poultry handler S. Saydaliyeva at the Production Association imeni Il'ich in Tashkent Oblast and many others. One of our priceless treasures is the experience of leading workers. We are striving to carry out the work in a thrifty manner and we are training the collectives based upon the example set by the better workers.

Having taken over a leading position in the production of goods, the enterprises of Ptitseprom are providing assistance in organizing operations on other farms. The kolkhoz and sovkhoz farms are presently employing modern technologies and equipment and also highly productive animals. Private poultry raising operations are developing in a successful manner.

The creation of a powerful industry has made it possible to increase rapidly the production of goods. At the present time, the problem concerned with ensuring that the population is continuously supplied with eggs has been solved for all practical purposes. Up until 1981, the U.S.A. was the world leader in egg production. Today our country occupies first place. The USSR surpasses England, Denmark, Austria, Canada and Italy in terms of per capita egg production. And indeed all of these countries have highly developed poultry production operations.

All of our enterprises are specialized. That is, they are concerned with the breeding of egg or meat type chickens, waterfowl or turkeys. Prior to 1975, they were concerned mainly with the production of eggs. Subsequently, the mass construction of poultry meat type enterprises commenced. Here a tremendous role was played by the 1977 decree of the CPSU Central Committee and the USSR Council of Ministers regarding measures for increasing poultry meat production. Successful use was made of the funds allocated for building the new factories. We presently have 400 specialized enterprises. As a result, the per capita consumption of poultry meat has increased from 3 kilograms in 1965 to the present figure of 10 kilograms.

Certainly, this fruitful work on the part of the poultry factories derives not only from the workers attached to our branch. Such work would be unthinkable in the absence of active participation by our partners. We received a great amount of assistance from almost all of the construction ministries, the machine

builders, enterprises of the microbiological industry, Minkhimprom /Ministry of the Chemical Industry/, Minmedprom /Ministry of the Medical Industry/ and Minlesbumprom /Ministry of the Timber, Pulp and Paper, and Wood Processing Industry/. It bears mentioning that the branch is being supplied with mixed feed on a centralized basis.

The past two decades were marked by the development of industrial poultry raising and a rapid increase in the production volumes. Priority attention is now being given to the quality indicators.

During the October (1984) Plenum of the CPSU Central Committee, the program to be followed by the farm workers was clearly defined: to obtain more output from the same number of animals and with thrifty expenditures of feed, labor and resources.

It is our opinion that great importance must be attached to the branch standards in solving this very important task. Earlier, we controlled the production of meat and eggs based upon so-called production recommendations. They did not have the force of law. Their fulfillment was dependent to a large degree upon the skills possessed by the workers. Meanwhile, the branch's industrial nature and use of the same type of industrial series equipment and productive poultry are creating very favorable conditions for standardization of the technological process and for carrying out work on a new basis. Under our conditions, the standard includes the rates, quality and efficient relationships among the various subunits.

Ten standards have now been developed and seven have been approved and are now in operation. They appear as a list of mandatory basic technological norms for poultry maintenance, for their productivity and safeguarding, for meat and egg quality, for feed consumption and so forth. The introduction of the standards is of exceptional importance with regard to raising the efficiency of poultry production operations. Noticeable improvements have been realized in technological and executive discipline and in the overall culture of labor. Improvements have also been realized in the safeguarding of the poultry, in their productivity and in many other economic indicators. We hope to develop all of the standards over the next 2-3 years. Thus our intra-production relationships are being established on a more efficiently oriented scientific basis.

But industrial poultry raising, as already noted, is economically associated with numerous "alien" enterprises and organizations. How can their interests be merged in a stronger manner? Here programs were also developed for the complete standardization of egg and poultry meat production. What do they appear like? They are normative-technical documents that are coordinated with all of the partners. They define the parameters for the production of a particular product based upon scientific and engineering achievements. The programs are approved by Gosstandart /State Committee on Standards of the USSR Council of Ministers/ and they are considered to be mandatory for carrying out by all enterprises of the agroindustrial complex. This is very important.

Actually, the rapid growth in poultry raising began to be held back by obsolete norms in related branches. As is known, the legal customer for example for technological equipment is USSR Goskomsel'khoshtekhnika. This is an intermediate

organization between industry and the countryside. The situation is such that it is not very interested in improving the characteristics of certain mechanisms. Thus the testing of equipment is carried out in a very superficial manner and without our participation. Quite often the equipment is accepted on an incomplete basis and with various defects. In addition, Minzhivmash /Ministry of Machine Building for Animal Husbandry and Fodder Production/, taking advantage of its right to prepare GOST's /state standards/ and the technical conditions for machine building products, often presented plans for approval without taking into account our future prospects. There were incidents when the indicators for the quality of machines and their individual parts, as set forth in the normative-technical documents, remained at a level lower than that actually achieved for a number of years. Such "miscalculations" often occurred in connection with the production of products by other partners.

Today the programs for all-round standardization are making it possible for USSR Ptitsprom to exercise personal control over technical progress in the branch, thus avoiding the departmental obstacles. The requirements embodied in the norms conform to the international level. Their realization will make it possible to achieve an economic effect on the order of hundreds of million of rubles by the end of the next five-year plan.

Certainly, we have our own internal reserves available for raising the efficiency of the branch. For example, let us take the leading collectives -- the Vevis Poultry Factory in the Lithuanian SSR, Sverdlovsk Poultry Factory in Sverdlovsk Oblast, Barkhatovskaya and Zarya poultry factories in Krasnoyarsk Kray, Zabrodenskoye Production Association in Voronezh Oblast and the Kobrin Association in Brest Oblast. They are obtaining more than 250 eggs annually from their laying hens, expending no more than 1.6 kilograms of feed for every 10 such eggs.

Unfortunately, by no means is skilful use being made of these reserves. Many derelictions, losses and serious shortcomings in the storage and processing of products and in expenditures of raw materials are still occurring at the branch's enterprises. And alongside the leading collectives there are others which have considerably worse indicators. Yes and the average annual productivity of the chickens throughout the system as a whole does not exceed 225 eggs, with feed expenditures for every 10 eggs amounting to 1.96 kilograms. Thus the task consists of eliminating the differences and achieving the level reached by the leading collectives at all enterprises without exception.

Difficulties and "bottlenecks" constantly arise in any production operation regardless of how it is organized. In particular, I would like to direct the attention of specialists in the mixed feed industry to the need for increasing the production of mixtures in granulated form. The amino acid lysine plays a large role in raising the productivity of poultry. Over the course of a number of years, the shortage in lysine has not been eliminated.

The commodity processing of eggs requires considerable expenditures. The sorting machines and lines that have been produced for this purpose are of low productivity and technically defective. Importance is attached to finding optimum solutions in this regard and to supplying the farms with equipment that is in keeping with the modern requirements.

Difficulties have recently surfaced in connection with the marketing of eggs and poultry meat. It is clear that in addition to correcting trade problems, improvements must also be realized in the marketable appearance of the products. The customers are devoting more attention to this factor. The chickens are being packed in polyethylene bags and the eggs -- in small unit containers. The carrying out of this work manually is both complicated and unprofitable. Automatic production lines are needed. Minkhimprom is creating the capabilities for producing polystyrene boxes. Ideally, such packaging should be made available to the customers as rapidly as possible.

The poultry breeders have a great amount of work confronting them. Improvements should be carried out in this work in all sectors and new heights should be achieved, so as to ensure that the country is supplied with greater quantities of food products with each passing year.

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CSO: 1824/153

AGRO-ECONOMICS AND ORGANIZATION

MINISTRY OFFICIAL PROMOTES PRIVATE PLOT DEVELOPMENT

Moscow SEL'SKAYA ZHIZN' in Russian 4 Jan 85 p 3

[Article by V. Sidorenko, deputy chief of the Main Administration for Subsidiary Enterprises and Trades and Private Plots of the USSR Ministry of Agriculture: "On Rural Plots"]

[Text] My wife and I have been managing a private plot all of our lives. We have a large family -- seven children and we produce our own products and still are able to sell some products. We raise cattle and hogs. I receive assistance in this regard from my sons; they procure the hay and provide the farmyard manure.

However, it is not always a simple matter to market our livestock in Gorkiy Oblast. At times, we have to travel to the neighboring Mordovian ASSR. Nobody in the settlement purchases milk from us. On one occasion I transported it in one of my machines over a distance of 6 kilometers to a receiving point. I could have turned over more milk if I had my own receiving point.

The feed problem is also a difficult one. In order to lay away feed, I work each year at the Mordovian state reserve. In return, they provide me with a hectare of haying land, at home on unsuitable land -- ravines and boundary strips. Grazing operations are quite difficult. Earlier each settlement had a pasture and it was plowed by the sovkhos. Following the death of my father, only an empty farmstead remained. I asked the sovkhos if I could plant perennial grasses. They granted permission. I plowed the land and, together with my children, I sowed it.

S. Zabrodin, Svobodnyy Settlement,
Voznesenskiy Rayon, Gorkiy Oblast

The above represents only one of many letters concerning the problem of private plot management, being received daily by SEL'SKAYA ZHIZN'. In discussing his own affairs and problems, S. Zabrodin raises concerns which are also troubling other rural inhabitants.

A rural farmyard provides a worthy increase in the form of products for our table. Its proportion in the production of milk, meat and eggs is approximately 30 percent of the overall production of these products. In the process, the rural inhabitants satisfy their own meat requirements by 72 percent, milk -- by 80, potatoes -- by 93, vegetables -- by 71 and fruit -- by 85 percent.

Concern on the part of the kolkhoz and sovkhos leaders for furnishing assistance to citizens in the management of their private plots, selling young pigs, young poultry and heifers to them and procuring feed for the privately maintained livestock has become the general rule. For example, in 1983 17.2 million young pigs and 674 million head of young poultry -- two times more than in 1976 -- were sold to the population. Roughly 24.9 million rubles worth of long-term credit was issued for acquiring cows and heifers. Assistance was also furnished in procuring feed, tilling the farmsteads and in selling surplus products.

At the same time, both the ministry and the editorial board received many signals regarding the plowing up of pastures and the lack of sufficient haying land, factors which tend to restrain the development of private livestock husbandry operations. Thus Serafim Fedorovich Zabrodin had to go to Mordovia in order to take advantage there of the forest haying lands.

It is important for the farm leaders to clearly understand that concern for the private plots is a state matter. Indeed, such concern for the country as a whole has led to a situation wherein a reduction is no longer taking place in the number of livestock being maintained by the population. The measures undertaken have made it possible not only to stabilize the number of animals in the private sector but even to realize an increase. In 1983 alone, the number of cattle on private plots increased by 6.6 percent compared to the average annual indicators for 1976-1980, cows -- by 2.2, hogs -- by 10.9, sheep and goats -- by 12.8 and poultry -- by 5.6 percent. This represents hundreds of thousands of head for the country as a whole.

One other fact is also of importance: despite the fact that the production of goods in 1983 increased by more than 2 million rubles worth, compared to the average annual data for the 10th Five-Year Plan, nevertheless the proportion of such output compared to the country's overall gross agricultural output decreased from 26.6 to 25.3 percent. This was a natural trend. Higher rates of growth for production in the public sector are a fine prerequisite for the successful development of private plot farming.

Contractual practice has entered into widespread use. In 1983 the kolkhozes and sovkhoses purchased from the private plots and sold in behalf of fulfillment of the state plan 1,088,000 tons of livestock and poultry (in live weight) and 4,207,000 tons of milk -- considerably more than in 1982. However, the reserves for using this method for making purchases have by no means been exhausted, as borne out by the letter received from Comrade Zabrodin. He included in this letter information obtained from the Mordovian kolkhoz which attested to the fact that he had turned over a calf obtained at the kolkhoz, after having fattened it to a weight of 385 kilograms. But why was it necessary for Serafim Fedorovich to turn for assistance to a neighboring republic? He wrote and asked why such a method is not available in his native Voznesenskiy Rayon.

Everyone is presently aware that the private economy can and must be developed successfully based upon strong and economically sound public production. The livestock of a rural inhabitant thrives on the feed fields of a collective farm. And the result: the richer a kolkhoz or sovkhov -- the greater the assistance for a family farmstead. Thus the combining of labor on private plots and in public production is beneficial to both sides. And neither public nor private production suffers in those areas where such a relationship is maintained.

But the value of the private plot system to modern rural life is not determined only by its production functions. Here we must not overlook the social factors: the personnel are firmly linked to the land, personnel turnover is reduced, the formation of labor collectives takes place in a more active manner, a reduction takes place in the migration of rural inhabitants to cities and an increase is noted in the rural labor resources.

In Omsk Oblast, for example, where attention is given to the development of the private economy, a noticeable increase has taken place, compared to the average annual data for the 10th Five-Year Plan, in the number of kolkhoz members and sovkhov workers. Over the past 10 years, the number of youth in the rural areas has increased considerably.

And indeed is it possible to exaggerate the role played by a farm in the labor upbringing of rural youth? If not on a private plot or through tending domestic animals, then where is it possible for our youth to acquire the work skills of peasants or to sense the harmony that can exist between man and his environment? Indeed, love for a field or for one's native area is not an abstract but rather a truly genuine concept. And we must not act indifferently when certain rural residents, especially youth, appear to be in no hurry to start a domestic economy.

Statistics have sounded an alarm in this regard: the proportion of private plots of rural residents which do not have any types of animals whatsoever is 31 percent, cattle -- 45, cows -- 52 and hogs -- 66 percent. An especially large number of families of kolkhoz members and sovkhov manual and office employees in Armenia, Moldavia and Estonia are not maintaining any poultry. Analysis has shown that an increase in the number of livestock and in the production of goods in the private sector was achieved mainly by those who earlier engaged in private animal husbandry operations.

Here a great deal depends upon the position taken by the local organs. While in Lvov Oblast, I became convinced that it was by no means an accident that the youth here, upon returning from the army, were in no hurry to take up residence in the city. Instead, they preferred to remain, as a rule, in their own native villages where they could pursue the profession of machine operator or livestock breeder. The traditions of farmstead life, which are becoming stronger and which are supported by the local authorities, are playing a considerable role with regard to the retention of youth in the rural areas.

Thus Serafim Fedorovich Zabrodin writes that adult children are providing him with assistance in procuring hay, spreading manure and harvesting potatoes and that they "have no time to drink wine." One can only approve of this approach. It is difficult to exaggerate the educational value of a private plot.

Still another important problem was raised in the letter -- the procurement problem. It would seem that there are more than just a few channels by means of which livestock husbandry products can be purchased from the population: through the kolkhozes and sovkhoses, consumer cooperation, meat combines and dairy plants and finally at markets -- approximately 5.5 million tons of milk and 3.7 million tons of livestock and poultry in live weight. And by no means have all of these reserves been exhausted. But is it necessary to transport milk 6 kilometers as did the author of the letter? Shortcomings in organizing the acceptance of products from the population may seriously hold back any possible increases in production.

I would like to touch briefly upon the problem of observance of the norms for the private maintenance of livestock by the population. Comrade Zabrodin reports that he maintains "three calves, a sheep and a hog and A.A. Prantsen of the Estonian SSR sent a letter to the USSR Ministry of Agriculture in which he stated that he maintains seven cows. In the process, the latter complained that he is being supplied only weakly with feed and hay.

The maximum number of livestock that can be maintained on a private basis by citizens is set forth in the legislation of union republics and in the Model Regulations for a Kolkhoz. The number of animals raised on the basis of contracts with kolkhozes and sovkhoses and also with organizations of consumer cooperation can be in excess of the established norms.

The observance of these norms is of considerable importance. The operation of a private plot must in no way adversely affect the work of any able-bodied worker at kolkhozes, sovkhoses or other state or cooperative enterprises or organizations. The maintenance of a large number of animals will undoubtedly inhibit the participation of citizens in public production. In addition, an excess of animals requires additional feed resources, which are still in short supply. And finally, such people often confuse the concept of "public" and "private." They may view a kolkhoz or sovkhos operation as being subsidiary production and private plot operations -- as the chief production operation.

Certainly, the additional rubles which kolkhoz members and sovkhos workers realize from the sale of surplus agricultural products should never be viewed as being excessive. High labor income does not tend to spoil people. The chief concern is that such income was not earned at the expense of a collective farm and that it resulted from honest labor carried out in behalf of society.

Unfortunately, Comrade Zabrodin made no mention of his participation or the participation of members of his family in public production. And indeed this is a most important consideration with regard to furnishing assistance to a family for the purpose of private farming and livestock husbandry. Thus, in order to avoid making a mistake when evaluating the importance of each private plot, a need exists for always bearing in mind the manner in which the plot's owners are working at kolkhozes, sovkhoses, enterprises or institutes.

AGRO-ECONOMICS AND ORGANIZATION

STRENGTHENING PROCUREMENT CONTRACT OBLIGATIONS

Stipulations of Ministerial Order

Moscow ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV in Russian No 10, Oct 84 p 26

[Order Number 390/250 of the USSR Ministry of Procurement and USSR Ministry of Agriculture of 15 November 1983, by G. S. Zolotukhin, USSR Minister of Procurement, and V. K. Mesyats, USSR Minister of Agriculture, Moscow: "On Confirming the Resolution on the Order for Concluding and Executing Contractual Agreements Regarding Agricultural Products and Model Contractual Agreements for These Products"]

[Text] Upon the request of kolkhoz and sovkhoz specialists and in connection with the coming conclusion of contracts for 1985, we are publishing the joint order of the USSR Ministry of Procurement and USSR Ministry of Agriculture, which provides the order in which this work must be carried out.

In order to implement the 1983 resolution of the CPSU Central Committee and the USSR Council of Ministers, "On Improving Economic Interrelations Between Agriculture and Other Branches of the National Economy," we order:

1. The confirmation of the attached resolution on the order for concluding and executing contractual agreements regarding agricultural products, which was developed with the participation of the USSR Ministry of the Fruit and Vegetable Industry, the USSR Ministry of the Food Industry, the USSR Ministry of the Meat and Dairy Industry, the USSR Ministry of Light Industry and Tsentrosoyuz [Central Union of Consumers' Societies] and approved by the USSR Ministry of Finance, the USSR Ministry of Justice, the USSR Supreme Soviet and the State Arbitration Board of the USSR Council of Ministers.
2. The recognition that the 31 December 1976 Order of the USSR Ministry of Procurement, Number 422, "On Confirming the Resolution on the Order for Concluding and Executing Contractual Agreements Regarding Agricultural Products," is no longer in effect.
3. The confirmation of the model contractual agreements regarding agricultural products developed with the participation of the USSR Fruit and Vegetable Ministry, the USSR Ministry of the Food Industry, the USSR Ministry of the Meat and Dairy Industry, the USSR Ministry of Light Industry and Tsentrosoyuz and confirmed by the USSR Ministry of Finance, the USSR Ministry of Justice,

the USSR Supreme Soviet and the State Arbitration Board of the USSR Council of Ministers regarding: grains, oil-bearing crops, hay and grass meal; quality and hybrid seed of grain and oil-bearing crops and grass seed; sugar beets (factory); raw cotton; long-fiber flax products; hemp products; ambary products; tea leaves, dry laurel leaves and tung fruit; raw tobacco and makhorka products; hops; essential-oil crops; medicinal crops; cocoons of the mulberry silkworm; chicory; potatoes; vegetables and melons; fruits, berries, grapes, dry fruits, nuts and honey; livestock, poultry and rabbits; milk and dairy products; eggs and poultry meat; eggs and wool; wool from kolkhozes and sovkhoses of enterprises of the system of the USSR Ministry of Light Industry; leather and fur raw materials; fur, fur raw materials, karakul, astrakhan lambskin and abomasum of lambs-milk animals; pond fish; and canned velvet antlers.

4. The ministries of procurement and agriculture of union republics, the Georgian SSR State Committee of Agricultural Production, the Estonian SSR Agro-Industrial Association and the Moldavian SSR Kolkhoz Council must achieve the conclusion of contractual agreements between kolkhozes, sovkhoses and other agricultural enterprises and organizations and enterprises and organizations that implement the procurement of agricultural products for the corresponding period in a 3-month period after the confirmation of a state plan for the economic and social development of the USSR.

5. Ministries of procurement of union republics must secure printed blank contract forms based on the orders of republic procurement organizations.

Ministries and departments of union republics which implement the procurement of agricultural products are to annually send out the aforementioned documentation to local procurement enterprises and organizations prior to 1 January.

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Contract Responsibilities Discussed

Moscow ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV in Russian No 10, Oct 84
pp 27-28

[Article by V. Sumatokhin, director of the State Inspectorate on the Procurement of Industrial Crops of the USSR Ministry of Procurement: "Strictly Adhering to the Conditions of Contractual Agreements"]

[Text] The procurement of agricultural products is carried out in our country on a contractual basis. The contractual agreement is one of the economic factors that has a direct effect on continued production growth and material stimulation. This type of agreement determines all of the conditions for selling products. In addition, the state provides incentives and guarantees procurement of above-plan agricultural products in every way.

The contract agreement is a legal document that establishes the responsibilities of parties and it is the only document that includes the entire volume of production subject to sale-reception. At the present time over 95 percent of agricultural products are procured according to contractual agreements.

In implementing the 1983 resolution of the CPSU Central Committee and the USSR Council of Ministers, "On Improving Economic Interrelations Between Agriculture and Other Branches of the National Economy," the USSR Ministry of Procurement and USSR Ministry of Agriculture developed, with the participation of the USSR Ministry of the Fruit and Vegetable Industry, the USSR Ministry of the Food Industry, the USSR Ministry of the Meat and Dairy Industry, the USSR Ministry of Light Industry and Tsentrosoyuz and with the approval of the USSR Ministry of Finance, the USSR Ministry of Justice, the USSR Supreme Soviet and the State Arbitration Board of the USSR Council of Ministers, and confirmed the Resolution on the Order for Concluding and Executing Contractual Agreements Regarding Agricultural Products and Model Contractual Agreements on These Products, Order Number 390/250 of 15 November 1983.

The new contract agreement significantly strengthens the mutual responsibility of parties and, in part, of procurers, for the reception of products, the incorrect determination of quality or quantity or incorrect payment for products arriving from kolkhozes and sovkhozes. Sanctions have been increased for the procurer in the case of untimely payments to enterprises for agricultural products and reimbursement of expenditures to deliver them. In connection with previous contractual agreements, the responsibility of the procurer doubles with regard to failure to supply enterprises with packaging, nails and packing materials. Reimbursements are also planned for losses incurred during violations of contracts as are a number of other sanctions for the non-fulfillment or improper fulfillment of contractual agreements by parties.

Unfortunately, in practice there are still cases in some local organs of under-evaluation of the significance of contractual agreements, which is manifested primarily by the absence of controls over the execution of agreements and by mutual amnesty by parties in instances of non-fulfillment of contracts. Strict adherence to contractual conditions is an important goal of enterprises and procurers. We must also take into account that sanctions, when used correctly, serve as a means of increasing procurement discipline.

A contractual agreement regarding agricultural products differs from others in that it presupposes active cooperation between parties on a number of important production questions and that it determines the formation of kolkhoz and sovkhoz plans for agricultural production output. In turn, these plans have an effect on the contractual agreement. In this way, contractual agreements and production plans for agricultural products in kolkhozes and sovkhozes are closely and integrally related. For procurement organizations it is important that the entire quantity of agricultural products subject to sale to the state is reflected in the kolkhoz's or sovkhoz's production plan, and for the enterprise it is no less important that a contractual agreement include the entire mass of products produced, thereby achieving their sale.

Contractual agreements related to quality and hybrid seed of grain, oil-bearing crops and grass seed, hay and grass meal, cotton seed and fruit and vegetable products pay more attention to the production obligations of kolkhozes and sovkhozes. According to this type of model contractual agreement, enterprises are obliged not only to sell a certain quantity of seed but also to observe all conditions that will facilitate the retention of seed that is unadulterated with impurities and other varieties of crops during storage, sowing, harvesting, threshing and drying.

In contract agreements on the sale to the state of sugar beets, cotton, tobacco and makhorka, enterprises oblige themselves to produce crop stands of these crops using conditioned seed received from the procurer and achieving the production of agricultural raw materials of certain varieties. Contract agreements involving cocoons of the mulberry silkworm foresee that enterprises must not only sell cocoons to the state but also organize the feeding of caterpillars in a certain breed (hybrid) composition.

The circle of production obligations of contracting parties basically amounts to the reception of products, although with the procurement of some types of agricultural products the obligations of the procurer are fairly significant and have a tendency to expand, which corresponds to the essence of the contract and answers the principle of production cooperation. The necessity of contracting parties to render aid to kolkhozes and sovkhozes in organizing the production of agricultural products and their transport to reception points and enterprises is encompassed in the Bases of Civil Law (Article 52).

Today existing model contractual agreements foresee the following type of aid in organizing agricultural production, the rendering of this aid being the obligation of the contracting parties.

In accordance with the 1980 resolution of the CPSU Central Committee and USSR Council of Ministers, "On Improving Planning and the Economic Stimulation of Production and Procurement of Agricultural Products," contracting parties reimburse kolkhozes and sovkhozes for the cost of shipping, expediting and unloading agricultural products from their place of production to the reception point of the procurer. This is a comparatively new form of aid, which is being rendered at the present time. Previously, procurement organizations reimbursed only expenditures for the delivery of products. The reception of fruit and vegetable products, livestock and milk directly in the enterprise and a transition to the delivery of procured agricultural products using the specialized transport of procurement organizations and enterprises of the processing industry are being developed.

Of great significance is the duty of contracting parties to supply enterprises with conditioned seed for sowing crops such as sugar beets, cotton, tobacco, makhorka, chicory and medicinal and essential-oil crops and to supply silk-worm-breeding enterprises with caterpillars that are ready for fattening.

We can cite many examples in which procurers render aid to kolkhozes and sovkhozes with regard to organizing the production and sale to the state of agricultural products. But the above attests quite fully to the great variety

existing in contractual relations involving state procurement. We would like to focus special attention on the fact that it is close production cooperation between procurers and enterprises that sharply singles out the contractual agreement from among other agreements that are in effect in the various branches of the national economy.

Now agricultural and procurement organizations are making preparations to conclude contractual agreements for 1985. With the goal of completing this work on schedule, the USSR Ministry of Procurement and USSR Ministry of Agriculture, in a joint order on 22 June 1984, obliged the procurement ministries of union republics to obtain printed blanks of contractual agreements based on the orders of ministries and departments that implement the purchase of agricultural products and in accordance with previously-approved model agreements. The mailing of contract blanks to local procurement enterprises and organizations has been assigned to the ministries and departments of union republics which implement the procurement of agricultural products. They are obliged to complete this work by 1 December 1984.

According to this order, the procurement and agricultural ministries of union republics, the Georgian SSR State Committee on Agricultural Production, the Estonian SSR Agro-Industrial Association and the Moldavian SSR Kolkhoz Soviet are obliged to conclude contractual agreements between kolkhozes, sovkhoses and procurement organizations within a 3-month period following the confirmation of the State Plan for the Economic and Social Development of the USSR for 1985.

In the time remaining, procurement organizations are obliged to carry out all preparatory work without repeating the mistakes tolerated during the conclusion of 1984 contracts. Here it is important that the aktiv of enterprises participate widely in concluding contractual agreements because it is necessary not only to determine the volume of planned procurement but also to foresee the maximal inclusion of the entire cultivated harvest into state resources. With these goals in mind, the aktiv's attention must be focused on mobilizing all existing reserves that guarantee increased production output and the fulfillment and overfulfillment of procurement plans and contractual agreements regarding the quantity, assortment, quality and schedule foreseen by the contract.

The obligations of procurement organizations must be reduced not only to an enumeration of the conditions of the contract but also to help an enterprise on a number of questions which depend on the procurer--supplying packaging, the timely issuance of advances for counter-sales, the uninterrupted reception of products, the correct evaluation of quality and quantity and timely accounts.

Procurement organizations must provide enterprises with effective standards and technical conditions and rules (instructions) that systematize the procurement of individual types of products and accounts for them. This is very important in order to improve contractual relations. Procurers are obliged to acquaint enterprises with rules for the correct reception and evaluation of procured products and accounts for them, with changes in regulations as well as with the requirements of enterprises to carry out instructions and

to consult with specialists of enterprises on these questions. The fulfillment of these obligations by procurers will facilitate improvements in the organization of state procurement of agricultural products and will eliminate cases of incorrect determination of production quality and accounts related to it.

With the goal of coordinating production activities of enterprises, procurement organizations and industrial enterprises procuring agricultural products, the delivery of products to reception points is usually planned according to schedules that are approved by the parties. The composition of correct, well-grounded schedules and strict adherence to them will facilitate the efficient use of transport, the coordination of the technological processes in agricultural enterprises with those in procurement organizations and industrial enterprises, their well-paced work, the correct use of production capacities and storehouses and the preservation of products.

Unforeseen circumstances requiring schedule changes in sales and deliveries to reception points are possible. The proposal on the order for concluding and executing contractual agreements regarding agricultural products stipulates that parties are justified in changing (by mutual agreement) schedules and delivery sites in the process of carrying out contracts. The order for developing, coordinating and changing delivery (submission) schedules for products as well as cases in which schedules are not set up are foreseen by rules that order the procurement of individual types of products.

A solution to the problem of the steadfast improvement in the well-being of the people, of creating the necessary quantity of consumer items in our country requires an overall increase in the production and procurement of agricultural products into state resources. The most important tasks and patriotic duty of all workers in agriculture, procurement organizations, industry, and state inspectorates on the procurement and quality of agricultural products processing raw materials involve maximal inclusion in state resources of all produce cultivated, avoiding losses and decreases of quality of products during procurement, storage and primary processing, strict adherence to state procurement discipline and the fulfillment of conditions stipulated in contractual agreements.

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CSO: 1824/109

AGRO-ECONOMICS AND ORGANIZATION

SCIENTIFIC, TECHNICAL PROBLEMS OF APK DEVELOPMENT

Kishinev KOMMUNIST MOLDAVII in Russian No 9, Sep 84 pp 49-55

[Article by G. Singur, doctor of economic sciences and professor: "The APK [Agricultural-Industrial Complex]: Problems of Scientific-Technical Progress"]

[Text] A strategic goal placed before the country's national economy by the 26th CPSU Congress involves the accelerated transition of the economy to a primarily intensive path of development. An increase in effectiveness of public production, including within the agro-industrial complex, is possible only on the basis of scientific-technical progress. This is an objective necessity at the contemporary stage of developed socialism. The main target function of the APK, as we know, is to supply the population with efficient nourishment and to supply the processing industry with raw materials.

What basic parameters have characterized the country's and our republic's APK in recent years? During the 10th Five-Year Plan the USSR APK employed an average of 47.7 million annual workers, i.e., 41.7 percent of their total number within the national economy. The mass of clear product comprised 162.2 billion rubles, or 41.5 percent of the total produced national income in the country. The total volume of APK end product has reached 224.7 billion rubles.

Agriculture and branches of the food and light industry, which make up the core of the APK, produce a total of about two-thirds of its end product. Over two-thirds of retail commodity turnover in state and cooperative trade consists of agricultural products and of products made from agricultural raw materials. Fixed production capital for agriculture increased by a factor of 3.4 in 1980 as compared to 1965, having reached 220 billion rubles, and energy capacities increased by a factor of 2.6. Direct labor expenditures per unit of production decreased in the country's agriculture by 44 percent during the last 15 years. Nevertheless, in many of its sub-branches a great deal of manual labor is still expended. For example, in our grain industry this indicator is 3-4 times higher than in economically-developed foreign countries.

The volume of capital investments into USSR agriculture in a 10-year period (1971-1980) comprised almost 300 billion rubles. But the growth in production volume turned out to be lower than planned. A portion of allocated resources was "devalued" by a growth in the cost of technology, materials and jobs and services provided by branches of industry and spheres of production-technical

services to agriculture. It is important to emphasize that agriculture is using more and more fossil fuel for energy as it becomes intensified. Thus, the expenditure of liquid fuel alone increased by a factor of 4.2 in cost terms during the 10th Five-Year Plan as compared to the eighth.

The Moldavian SSR's APK is developing within a single system of the country's agro-industrial complex, but it has its own characteristics which must be taken into account in national economic planning and in the process of forming scientific-technical policy for the future. Moldavia is characterized by a large degree of economic assimilation of territory, by highly intensive production, by the highest population density of all union republics and sufficient labor resources on the whole, and by a favorable combination of natural conditions and resources used for agricultural purposes, enabling it to produce valuable food products very profitably and on a large scale--grapes, fruit, vegetables, sugar, vegetable oil, wine and others. During the 10th Five-Year Plan the APK's share in the MSSR's gross national product equalled 59 percent, in national income--57 percent and in fixed production capital of the region's national economy--66 percent. In the MSSR a large agro-industrial complex, making up the nucleus of the republic's economy, has been developed.

The comparative significance of the APK in the USSR and MSSR can be judged by the following official statistical data:¹ the share of USSR agriculture in the country's gross national product comprised 13.8 percent, and in the MSSR--23.6 percent; the proportion in total volume of products from the food industry--18.2 and 43 percent respectively.

When developing the structure and selecting the direction for developing the republic's national economy, the absence here of fuel sources, metal ores, chemical raw materials and commercial timber reserves is taken into account. Our water resources are also limited. Most industrial and other equipment is imported into Moldavia from other union republics. All of this together determines the specific proportions in the development of the region's economy and its investment policies, including investments into the agro-industrial complex. Factors such as scientific-technical progress, concentration and specialization and changes in production structure are having more and more of an influence on the effectiveness of the APK. In connection with this, the high pace of renewing fixed production funds, the enlargement of enterprises and uniform technological capacities, and the formation of complete machine systems in the basic branches of the complex are characteristic of the republic. The power available per productive worker in industry almost quadrupled in 1961-1980, and in agriculture it increased sixfold.

Significant fluctuations can be observed in the growth pace and structure of gross production from year to year according to favorable and unfavorable

¹The data has been calculated on the basis of indicators presented in statistical journals NARODNOYE KHOZYAYSTVO SSSR V 1982, Moscow, 1983 (pp 45 and 118) and NARODNOYE KHOZYAYSTVO MOLDAVSKOY SSR V 1982, Kishinev, 1983 (pp 19 and 47).

weather conditions. This is based on the considerable influence of agriculture on the pace of development of all of industry in the republic since more than half of its production makes use of agricultural raw materials. A certain decrease in the proportion of agriculture within the structure of public production in recent years is the result of the forestalling pace of development of a number of food branches of industry and several other spheres. Despite this, its role in the formation of gross products and national income of Moldavia remains very significant, as before. In evaluating the results of improving the structure of public production in the APK we should consider that in it, as in the Moldavian SSR as a whole, a capital-intensive but labor-sparing type of expanded reproduction prevailed until the mid-1970's.

The structure of capital investments and fixed capital in the APK of both the USSR as well as the MSSR has not yet been perfected. The basic mass of investments is concentrated in agricultural production, whereas a decrease in the proportion of the branch in the cost of all fixed production capital of the APK is implemented slowly. An inadequate foundation for the distribution of capital investments within the APK is also manifested in the small and practically unchanging share in fixed production capital of branches producing food and other products made from agricultural raw materials as well as those who implement their storage and deliver them to the consumer. This is one of the main reasons for the disproportions characteristic of the contemporary level of development of agro-industrial production, which results in significant losses in farming and in other branches of the complex.

The structure of labor resources in the USSR's APK in 1960-1980 attests that for every worker involved in agricultural production there was an average of 0.49 workers in other branches of the APK in 1966-1970, 0.64 in 1970-1975 and 0.75 in 1976-1980. The level and dynamics of labor expenditures for the production of the APK's end product, according to individual reproduction stages, are the basis for another unfavorable tendency--the growth of the number of workers in agro-industrial production in general. In the future there should be a continuation of the curtailment in the number of workers involved in national agriculture accompanied by an intensive increase in labor expenditures in all non-agricultural branches of the APK. The relationship between these tendencies must achieve a curtailment in the total number of people working in the complex. This type of situation is also characteristic of our republic.

During the last 15-20 years the material-technical base of the MSSR's APK, and especially of agriculture, developed at a rapid pace. Capital investments in the development of a material base equalled 1.81 billion rubles during the Ninth Five-Year Plan and 3.77 billion during the 10th; their proportion in total volume of capital investments into the republic's national economy increased from 45.8 and 49.9 to 50.7 percent respectively. Within the structure of capital investments into the region's APK, the largest share has gone to agriculture during the last three five-year plans (during the years of the 10th Five-Year Plan--78.4 percent). Despite the importance of an increase in capital investments into agriculture, this kind of structure cannot be recognized as optimal.

During this period, the return on capital investments in agriculture as well as the food industry decreased in our republic. Thus, calculations show that according to growth in clear income per ruble of capital invested in the APK return equalled the following, on the average: 0.29 rubles during the years of the Eighth Five-Year Plan, 0.07 during the ninth and 0.03 during the 10th. In agriculture, the corresponding figures equal losses of 0.21, 0.05 and 0.02 rubles.

One of the substantial shortcomings in the area of capital investments is the branch and departmental approach that developed over a period of many years and that manifests itself above all in planning. This makes it more difficult to redistribute capital investments among the spheres and branches of the APK and becomes a hindrance in eliminating existing disproportions. The absence of a centralized foundation for planning (distributing) capital investments and departmental separateness result in decreased effectiveness of new equipment and progressive technology and in large losses of raw-materials resources and delay the growth pace of the volume of end production. Within MSSR Gosplan, the plan on capital investments is elaborated for all branches of the complex with a consideration of established forms and indicators; nevertheless, there is an absence of multiple divisions in the plan to concentrate information and assignments on changes in branch and technological structure of capital investments and to reflect economic effectiveness in the APK as a whole and in its main spheres. Branch and departmental "disjointedness" between the volume of planned capital investments and achievements of scientific-technical progress and material-technical supplies frequently results in the cancellation of plans to introduce capacities and in the compound prolongation of schedules to assimilate plans. As a result, the national economy suffers great losses.

Despite the fairly high level of food production achieved in the country as a whole, in calorie-content and quality its structure does not meet medical requirements. A high calorie content in the ration is achieved by means of high-energy components--above all, grain products, sugar and potatoes to some degree. The need for protein is satisfied by only 89 percent; there is a shortage of animal protein (79.2 percent of the norm) as well as several vitamins and minerals.

The instability of agricultural production is not being curtailed. Differences in the volume of products produced reaches 20 percent of gross yield, and in grain production--even 60 percent of gross yield. With a growth in the volume of agricultural production there is also a growth in losses of raw materials at the stages of production, storage, transportation, processing and sales.

Production expenses in agriculture are still large; they are not compensated for by the growth in gross production. As a result of this it becomes necessary to periodically raise procurement prices and to correspondingly increase subsidies to branches of the food and light industries in order to support a stable level of retail prices. All of this worsens conditions for expanded reproduction, especially in agriculture, and for utilizing cost-accounting incentives for activity in all links of the APK.

The presence of a number of important problems that hinder the well-paced development of the APK and that decrease the volume and effectiveness of producing the end product is based primarily on disproportions between:

--branches supplying agriculture with the means of production and the development of farming and livestock raising;

--branches of agriculture and the food and light industries, which process agricultural raw materials;

--directions for the intensive development of agriculture (chemization, reclamation, mechanization and so forth);

--production infrastructure and branches of the APK;

--social infrastructure and production development in the APK.

Other disproportions must also be eliminated--between power and working machines in agriculture; between delivery of technology and its servicing; between the delivery of equipment and the training of cadres of machine operators as well as securing them in the village; between the production of fertilizer, availability of storehouses to store it and equipment to apply it to the soil; between the number of head of livestock and poultry and the feed base; between the production of concentrated feeds and the development of the mixed-feed industry; and between the production of perishable goods (vegetables, fruit, milk, etc.) and specialized means for transporting, storing and processing them and delivering them to the consumer.

The common cause of the aforementioned unfavorable phenomena, tendencies and problems involves the low level of use of existing natural and growing technical-economic potential in agriculture, related processing branches of industry and of material-technical supply and production-technical services, which is based on the inefficient structure of agro-industrial production, the imperfection of the economic mechanism in the APK as a whole, and the slow pace of growth and low effectiveness of utilizing the results of scientific-technical progress in production.

Thus, the time is ripe for implementing cardinal measures in the area of NTP [Scientific-technical progress]. Above all this refers to inter-branch structural changes, the goal of which is to achieve balance in the stages of agro-industrial production, its material-technical supply and production-technical servicing. The main result of such balance should eliminate all losses in the complex--losses of intermediate and end products as well as various production resources (incomplete use of equipment, inefficient use of mineral fertilizers, feeds, fuels and electrical energy, inefficient expenditure of work time and so forth). The absence of losses is the criteria for balance in reproduction processes within the APK and for the efficiency of the APK's production-technical structure. A decisive role in increasing the effectiveness of the agro-industrial complex is to be played by scientific-technical progress. The basis for accelerated development of the agro-industrial complex and for a solution to the food problem is the rapid pace of agricultural production for all types of products foreseen in the Food

Program. During the years of the 11th Five-Year Plan alone, the power available per productive agricultural worker must increase by a factor of 1.5; the capital-labor ratio--by a factor of 1.4. The production of mineral fertilizers will increase by a factor of 1.5. Agriculture will obtain a large quantity of modern equipment. During the current five-year plan 233 billion rubles of capital investments are being allocated for the development of the USSR's agro-industrial complex; of this quantity, 189.6 billion rubles are being directed into improving agriculture.

Measures have been foreseen for improving its structure. More resources are being directed into the development of branches that supply agriculture with the means of production and that implement a more thorough processing of agricultural products and that achieve their preservation. Industrial equipment alone worth 15-17 billion rubles is being allocated to the food branches of industry for the next decade. It is planned to allocate 15 billion rubles of capital investments for improving the storage of products and for curtailing their losses during the current five year plan, which is greater by a factor of 1.6 than allocated during the last five-year plan. These measures will encourage an equalization of production conditions in all structural links of the USSR's APK.

The main goals relating to scientific-technical progress in the APK involve, first and foremost, the areas of tractor and agricultural machine building, machine building in livestock-raising and feed production, machine building for light and food industries, chemical machine building, fuel and chemical, automobile, mixed feed and microbiological industries and rural building. All of these are branches of the APK's production infrastructure.

In the sphere of the main branches of the APK, the main directions of scientific-technical progress consist of the following. The most significant measures must be related to the continued multi-factor intensification, stable growth and stable increase in production effectiveness and production quality of agriculture.

Scientific-technical progress in farming presupposes the elaboration and introduction of zonal and microzonal scientifically-based systems of management that will achieve increased soil fertility, increased productivity of existing and newly-developed plant varieties, increased productivity of livestock and poultry, overall development of breeding and seed farming and the application of biological production factors.

Scientific-technical progress in livestock raising will have an effect on the growth of productivity of livestock and poultry and on improving breeding work to increase the breeding and productive qualities of animals to meet the needs of industrial technology. A radical improvement in feed production and the satisfaction of the need for feeds within public production and for the livestock and poultry on private plots can be achieved by developing and implementing a complex program to develop a dependable and balanced feed base in the country. Here a great deal depends on the elaboration of scientifically-based recommendations on improving systems for the maintenance of livestock and poultry and on a production technology that will enable farmers to obtain high quality livestock products with minimal expenditures of resources.

In this way, the need to increase the intensification of agricultural production gives rise to the necessity to clearly formulate a social order for scientific-technical progress and to look on this progress on a larger scale and with an orientation toward the effective use of this important factor in intensification. To a large extent, the influence of scientific-technical progress is directed at solving key production problems which affect the qualitative growth of production and its economic effectiveness to a significant degree. One such key problem is the stability of agricultural production, which to a large extent determines its qualitative and quantitative parameters as well as those of the food industry and of the entire food complex.

The effect of the achievements of scientific-technical progress on the stability of agro-industrial production is implemented by means of supplying production with new machines and mechanisms, of introducing progressive technology that is maximally adapted to local conditions, of continued chemization and of expanding water-management building. In addition to technogenetic factors those directions of scientific-technical progress related to the more complete and efficient use of natural and agrobiological potential must be developed at an accelerated rate. No less urgent now is the problem of selecting equipment and technology that will allow us above all to utilize energy and all types of resources in the best possible way, i.e. we are talking about resource-sparing equipment and technology and production intensification which economizes on production.

The role of information access is playing a larger and larger role in agro-industrial production. The development of a bank of reliable data on the natural-economic conditions and resources of every production unit, its automated data processing and multi-faceted analysis are becoming important factors in increasing the stability of production. To a large extent, the acceptance of the most well-founded solutions related to the introduction of the achievements of scientific-technical progress, including its biological, technical, organizational, economic and social aspects, will depend on this. This must be the source of a thorough, multi-faceted, resource-sparing intensification of contemporary production. Here we must act on the assumption that agriculture is a complex bioeconomic system.

Achieving conditions that will facilitate a high pace of development of production of items ready for consumption, semifinished products, culinary articles and so forth is included in the goals of scientific-technical progress within the branches of the food industry.

There are many scientific-technical problems related to increasing the output of packaged goods, to using new types of packing materials and to securing the long-term storage of articles. Further research is required on developing new technologies for the complex processing and use of agricultural raw materials. Measures must be implemented related to the widespread use of direct extraction methods in the production of vegetable oil, to aseptic methods for canning fruits and vegetables, to complexly mechanized lines in the meat and dairy industries and to packageless and container shipment of raw materials and products. The development of the refrigeration industry and the expansion in use of artificial refrigeration during processing and storage of agricultural

products will enable us to significantly decrease losses and to raise the effectiveness of agro-industrial production.

The further improvement of the structure of public production in the APK on the basis of scientific-technical progress will encourage the growth and significant improvement of indicators within its branches and will facilitate an increased contribution toward solving the food problem and social problems facing village workers.

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CSO: 1824/110

AGRO-ECONOMICS AND ORGANIZATION

IMPROVING ECONOMIC EFFICIENCY OF APK IN UKRAINE

Kiev EKONOMIKA SOVETSKOY UKRAINY in Russian No 9, Sep 84 pp 10-18

[Article by A. Onishchenko, professor and doctor of economic sciences and A. Tipko, candidate of economic sciences: "Improving the Economic Mechanism of Selling Agricultural Products"]

[Text] At the All-Union Economic Meeting on Problems of the Agro-Industrial Complex, the General Secretary of the CPSU Central Committee, K. U. Chernenko, noted that the acceleration of the transition of agriculture to an intensive path of development and a significant improvement in return from potential developed in kolkhozes and sovkhoses requires a decisive improvement in the operation of the agro-industrial association, an improvement in the level of all economic work, an extensive introduction of cost accounting and collective contracts and the use of other economic factors. In general, there must be an improvement in everything that is understood to be part of management and the economic mechanism.¹

The end results of the operations of the agro-industrial complex are based to a large extent on the economic mechanism that facilitates, in part, inter-branch ties between agriculture and the sphere of procurement, processing and the sale of agricultural products. Since a system of state procurement of products lies at the basis of centralized management of agriculture, the economic mechanism for ties between agriculture and branches in this sphere of the APK [Agro-Industrial Complex] should be improved first and foremost in this area.

The stimulation of procurement is implemented by means of the system of procurement prices and additions to them. In the Ukrainian SSR payments to kolkhozes, kolkhoz farmers, workers and employees for agricultural products sold to the state and to cooperative and trade organizations more than doubled in 1982 as compared to 1965, including the following: payments for farming products increased by a factor of over 1.6 and for livestock products--by a factor of 2.5. However, the profit level for agricultural products, especially

¹PRAVDA, 27 Mar 84.

for products sold by kolkhozes to the state, decreased from 29.4 percent in 1966-1970 to 26.1 percent in 1971-1975, 13.9 percent in 1976-1980 and to 6.1 percent in 1982. Moreover, a decrease in the profitability of enterprises occurred under conditions in which procurement prices were increased more than once, which was based on a more rapid increase in expenditures for agricultural production output as compared to the growth pace for prices. The growth pace of production expenses in kolkhozes was about double the growth pace of prices, which gradually curtailed the opportunities for kolkhozes to implement expanded reproduction by means of internal sources of accumulation and which did not strengthen their cost-accounting independence.

The main factor in increasing the effectiveness of agricultural production at the contemporary level is, as previously, a decrease in the cost of production. Within the branch there are extensive reserves for this, the most important of which are improving the distribution and specialization of agricultural production, the efficient use of land, technology, feeds and other resources, as well as a curtailment of losses of agricultural products, a transition to management methods based on the introduction of collective contracts and improving intra-enterprise cost accounting relations. An important role in this matter also belongs to the optimization of the relationship between wholesale prices for production means sold to kolkhozes and sovkhoses and procurement prices for agricultural products.

In order to eliminate the existing lack of correspondence between procurement prices and socially-necessary production expenses and to increasingly stimulate agricultural development, on 1 January 1983, as we know, procurement prices were increased for the main types of agricultural products and supplements were introduced for products sold to the state by low-profit and unprofitable kolkhozes and sovkhoses carrying out production operations in relatively worse natural and economic conditions.

In the Ukrainian SSR in order to increase procurement prices for agricultural products 2.7 billion rubles were allocated by the state; and for the payment of supplements to procurement prices--947 billion rubles. Supplements were established for 4,547 enterprises, including 3,585 kolkhozes, 915 sovkhoses and 47 inter-farm enterprises. Thanks to an increase in procurement price and the introduction of supplements to it, over 90 percent of these enterprises completed 1982 profitably. A strengthening of the financial situation of economically-weak enterprises allowed them to increase deductions into the fund for expanding the material-technical base and to create funds for socio-cultural and consumer purposes. In this way, the measures taken to improve procurement prices and to introduce supplements to them became an important factor in increasing the effectiveness of unprofitable and low-profit kolkhozes, sovkhoses and inter-farm enterprises.

At the same time, practical experience shows that work should be continued to improve the system of procurement prices and supplements to them. In particular, continued improvements require the territorial differentiation of procurement prices for a number of products with the goal of achieving equalization of economic conditions for reproduction in enterprises of different natural-economic zones and regions. Extensive work must be done to

improve price differentiation with a consideration of the qualitative characteristics of production.

Different opinion have developed on the subject of supplements to procurement prices for products sold by low-profit or unprofitable enterprises. Some feel they are necessary, others feel they are not expedient because the establishment of supplements for all low-profit and unprofitable enterprises undermines the interest of kolkhozes and sovkhozes in the struggle to economize on the consumption of resources, to decrease production costs, to improve production quality and on this basis to increase the profitability of production, for the latter can result in the cancellation of price supplements for the given enterprise in the future.

Our research leads to the conclusion that such supplements are extremely essential, and not only during the given period to improve the economies of low-profit and unprofitable enterprises and the level of socio-economic development but also in the future to provide enterprises involved in production-economic activities under worse natural-economic conditions with approximately the same pace of economic and social development as for all other enterprises.

At the All-Union Economic Conference on Problems of the Agro-Industrial Complex, the speech of M. S. Gorbachev, member of the Politburo of the CPSU Central Committee and secretary of the CPSU Central Committee, noted, "Today conditions have been created in the village which give kolkhozes and sovkhozes the opportunity to increase production output, to earn resources, to increase profitability and to decrease expenditures. It is important to skilfully and with the greatest advantage utilize the aid of the state, especially supplements to procurement prices for lagging enterprises. To make these enterprises self-supporting and the have them fulfill their plans--these are among the most important tasks of agro-industrial associations and party and soviet organs."²

At the present time in many regions of the Ukrainian SSR many enterprises, and kolkhozes in particular, vary greatly in indicators of economic and social development. Differences in fund supplies are often threefold and fourfold, in production of commercial products per unit of area--twofold and threefold, in wages--greater by a factor of 1.5-2, and in the level of clear income per unit area and in availability of funds for cultural-consumer purposes per average worker--fivefold to tenfold and more.³ In enterprises that lag in socio-economic development the developed production potential is poorly utilized, which has a negative effect on the pace of development of agricultural production in the country as a whole. In connection with this, one of the most important directions for improving agricultural production with the goal of fulfilling the USSR Food Program in the Period to 1990 is the strengthening of the economies of lagging enterprises; it was for this purpose in particular that supplements were introduced to procurement prices

²PRAVDA, 27 Mar 84.

³"The Agro-Industrial Complex of the Ukrainian SSR," Kiev, NAUKOVA DUMKA, 1980.

for products sold by low-profit or unprofitable enterprises working under relatively worse natural-economic conditions.

In 1983 these supplements were provided, as we have noted, for all low-profit and unprofitable enterprises without a consideration of other factors; moreover, this was done with the intention that all enterprises have approximately the same profitability. But profitability depends on objective as well as subjective factors, and in particular on the level of management of the enterprise, the organization of labor, and so forth. Among low-profit and unprofitable enterprises we sometimes come across kolkhozes and sovkhoses that have a relatively high production potential. It is naturally inexpedient to establish supplements to procurement prices for such enterprises. Supplements should be paid to enterprises that carry out production operations under relatively poor natural conditions, that have low quality soil and that have a low general (total) resource potential.

Differences among enterprises with regard to soil quality and supply of labor and material resources can be observed to different degrees in every region. For example, the indicator for the qualitative evaluation of arable land in the kolkhozes of Novograd-Volynskiy Rayon, Zhitomir Oblast (according to calculations by A. S. Khrinyuk) vary from 31 to 61 points, i.e. they differ almost twofold; labor supplies per 100 hectares of agricultural lands varied from 10.8 to 21.7 persons, or twofold; fixed production funds per same area--from 34,300 to 193,300 rubles, or by a factor of 5.6; material turnover resources--from 24,700 to 73,800 rubles, i.e. threefold; and total resource supplies (monetary evaluation of all resources) per hectare of agricultural lands--from 1,976 rubles to 5,166 rubles, or by a factor of 2.6. Moreover, the availability of labor resources, material production funds and total resource potential is usually directly related to soil quality. All of these differences naturally are the basis for the different levels of socio-economic development of kolkhozes (see table).

In 1983 an increase in procurement prices and the payment of supplements to them allowed us not only to increase the profitability of all kolkhozes and sovkhoses but to also decrease their differentiation in terms of this indicator. The profitability of kolkhozes of Novograd-Volynskiy Rayon, for example, increased by an average of 28.9 percent (from 0.31 percent in 1982), and the amplitude of fluctuation of this indicator for the rayon's kolkhozes decreased from 83.7 percent to 40.3 percent, i.e., by over half. All kolkhozes became profitable.

Naturally, price supplements must be paid to enterprises having low-quality soil and a low total resource potential, including to those which achieve a normal level of profitability in production as a result of high labor organization, of progressive methods of management and of a conscientious attitude toward the public economy on the part of all members of the collective. At the same time, we sometimes find low-profit or unprofitable enterprises that do not fully utilize their potential among kolkhozes and sovkhoses with high-quality soil. Such enterprises exist among the kolkhozes of Novograd-Volynskiy Rayon and they belong to a third group. An increase in their profitability should be implemented on the basis of the development and execution of corresponding organizational measures.

Indicators of Socio-Economic Development in Kolkhozes of
Novograd-Volynskiy Rayon, Zhitomir Oblast for 1982

Indicators	Groups of kolkhozes according to qualitative evaluation of soil			
	Up to 40 points	41-50 points	over 50 points	In kolkhozes as a whole
Evaluation of agricultural lands, (points)	36.1	46.4	54.2	45.0
Average annual number of workers per 100 hectares of agricultural lands (persons)	11.4	13.4	14.6	13.0
Fixed production funds per 100 hectares of agricultural lands (thousands of rubles)	54.7	96.6	145.8	93.0
Material turnover resources per 100 hectares of agricultural lands (thousands of rubles)	29.9	38.4	56.0	39.5
Total resources available— resource potential per hectare agricultural lands (rubles)	2,590	3,462	4,371	3,280
Gross agricultural output per hectare agricultural lands (rubles)	283	394	580	398
Production profitability (%)	-17.4	-0.6	15.9	0.3
Remuneration of one man-day (rubles)	4.37	4.60	4.85	4.58
Remuneration of average annual worker (rubles)	1,093	1,112	1,288	1,135
Expenditures for socio-cultural- consumer services per average annual worker (rubles)	20.4	50.9	66.0	45.4
Funds for social-cultural- consumer services per average annual worker (rubles)	267	358	394	336

A similar approach should be the basis for the distribution of resources allocated from the state budget and directly earmarked for the building and upkeep of cultural-consumer objects in low-profit and unprofitable kolkhozes, as well as for the redistribution in the republic of general resources for non-production building for the good of the village.

Measures foreseen in a resolution of the CPSU Central Committee and USSR Council of Ministers, "On Improving Economic Interrelations Between Agriculture and Other Branches of the National Economy" (1983) should greatly strengthen the agricultural economy. The main task in improving these relations involves achieving stable conditions for expanded production in kolkhozes, sovkhoses and inter-farm enterprises. With this goal in mind the following have been foreseen in particular: (1) a foundation of economic and social development

in USSR state plans and confirmation of essential profitability norms in agricultural production; (2) support of this norm for profitability level by means of price corrections.

Research that has been done shows that support of a stable level of profitability in agricultural production is the most difficult and as yet an unsolved problem related to economic relations of the APK. In connection with this, corrections of procurement prices for industrial goods and services acquired by the village must be made annually utilizing an index of price relations that represent the relationship between the index on dynamics of procurement prices and the index on changes in expenditures for agricultural production output arising from price factors.

The resolution emphasizes that the level of procurement prices for agricultural products for the next five-year plan will be established on the basis of "the necessity to achieve the branch norm for total profitability with a consideration of planned production volume and procurement of agricultural products, availability of funds in enterprises and the level of wage payments and other plan expenditures for agricultural production output and with a view to increasing the effectiveness of agricultural production, to improving the use of fixed and turnover capital and to curtailing material expenditures."⁴ This is in the interest of the state and of enterprises that produce agricultural products. The latter must know price levels that will be in effect during the planning period for production means and for agricultural products when they receive their procurement plans and their plans on capital investments, material-technical supplies and the volume of deliveries of mineral fertilizers and other limited resources. Here it is very important that procurement prices stimulate increased production quality better, which will facilitate an increase in the interest of enterprises to increase the protein content of grain, the sugar content of beets, the starch content in potatoes, the oil content in sunflower seeds, the content of dry substance in tomatoes, and so forth. In the final analysis this will enable us to increase the country's production resources.

More attention should be paid to improving the existing system of state procurement of agricultural products, which now is multi-departmental with superfluous intermediate links, which makes management more difficult, does not encourage a strengthening of the material-technical base and most importantly, which tolerates great production losses, a deterioration in quality in the process of moving products from fields (farms) to consumers, and increased overhead expenses. For example, each year the USSR's meat industry pays livestock-procurement organizations over 40 million rubles to cover organizational-overhead expenses related primarily to the maintenance of the apparatus of these organizations.⁵ This is why the elimination of intermediate links in the process of moving these products to the consumer is a very serious aspect of improving procurement of agricultural products.

⁴PRAVDA, 22 July 1983.

⁵VOPROSY EKONOMIKI, No 3, 1981, p 98.

In this area, the experience of several socialist countries and CEMA [Council for Mutual Economic Aid] members is of interest. In particular, in Hungary the development of direct ties between enterprises and processing and trade enterprises on the basis of contracts has enabled them to eliminate superfluous links in the agricultural-production chain and to implement deliveries according to the scheme "enterprise--processing (trade) enterprise--consumer." There is no longer a necessity to have a department such as the procurement ministry. Cooperatives, state farms and associations conclude economic contracts on their own initiative concerning delivery of agricultural products with enterprises and organizations of the third sphere of the APK, i.e. those that process, store and sell them to the consumer. The development of direct ties in Hungary's APK to a significant degree facilitated increased effectiveness of agro-industrial production, improved supplies of food products to the population in cities and villages and expanded production for export.

Similar measures to eliminate middlemen in selling agricultural products have been taken in the GDR [German Democratic Republic] and in Bulgaria,⁶ where it was decided to expand the initiative of agricultural enterprises and to make them equal partners with enterprises that process and store agricultural products and deliver them to the consumer.

An important direction in improving economic relations between agriculture and the processing industry is the organization of a correct and precise system of accounts for products sold. It must be said directly that the meat, dairy, sugar and other branches of industry still tolerate many violations and even abuse in accounts for products sold to them by kolkhozes and sovkhoses. As a rule, the latter are usually the losers. For example, in 1982 the kolkhozes and sovkhoses of Mogilev-Podol'skiy Rayon, of the Vinnitsa Oblast agro-industrial association, delivered vegetables and fruit to the canning plant as non-standard production and as a result lost 203,000 rubles. But the plant used this raw material to make goods that it sold to the state primarily as first-quality products. This is why kolkhozes decided to sort vegetables and fruits directly in the fields so that representatives of the plant could procure them directly in the fields. This example attests to the necessity to create points for commercial processing in enterprises that specialize in vegetable production. Experience shows that if enterprises sort vegetables according to quality prior to sending them off, the proportion of standard products in the volume of products sold is greater, which helps to increase income in the branch.

The growing role of the RAPO [Rayon Agro-Industrial Association] to a large extent is facilitating the strengthening of state discipline in procurement, the achievement of well-paced deliveries of agricultural raw materials for processing and increased preservation of products raised in enterprises. Whereas prior to its creation in rayons a large quantity of vegetables and fruits was lost because canning plants did not accept these products for processing even though their capacities were not being fully utilized, with the creation of the RAPO the situation has changed. It has become possible to consider the interests of enterprises better and to prepare as much production as could be delivered for processing. This is the goal presented in the "Resolution on the Order for Concluding Contractual Agreements Regarding Agricultural Products," confirmed in 1983 by general order of the USSR

Ministry of Procurement and USSR Ministry of Agriculture. In particular, it notes that procurement organizations bear the responsibility for organizing procurement and for carrying out the reception of all products produced by enterprises in accordance with procurement plans and above the plan. When necessary the RAPO soviet can deal with the question of restructuring the processing enterprise or expanding its capacities if there is a need for this and to make sure that the agricultural products that were raised do not perish.

It is also very important that the RAPO have the right to prosecute procurement organizations for sums that were not paid to agricultural enterprises due to incorrect accounts by procurement organizations of agricultural products sold to them by kolkhozes and sovkhozes.

It should be noted that the laboratories of processing enterprises often downgrade quantitative and qualitative indicators for products delivered by kolkhozes and sovkhozes with the goal of creating some reserves for covering their own work violations. This does not facilitate a strengthening of the economies of enterprises and does not correspond to public interests because it decreases the output of end products. In connection with this, the subordination of quality-control laboratories to inspectorates on the procurement and quality of products, which must become part of the RAPO with departmental rights, could be of very great significance. It is necessary also to strengthen the material-technical base of the laboratory with modern automatic equipment for determining the quality of agricultural products using an express method. The transfer of subordination of the laboratory on the quality of agricultural products and products made from them, which includes the function of controlling the quality of agricultural products sold by kolkhozes and sovkhozes with the goal of avoiding losses and deterioration, will require improvements in the work of processing enterprises and the achievement of production output to correspond to the normative consumption of agricultural raw materials.

In recent years a very special role has been assigned to expanding direct ties between kolkhozes and sovkhozes and enterprises of the processing industry and retail trade and to shipping agricultural products directly from enterprises using vehicles belonging to procurement organizations and enterprises. The resolution of the CPSU Central Committee and USSR Council of Ministers, "On Measures to Improve the Economic Mechanism and Strengthen the Economies of Kolkhozes and Sovkhozes" (1982) foresees the completion during the 12th Five-Year Plan of the transition to reception directly in kolkhozes and sovkhozes and to shipping livestock, poultry, milk, potatoes, vegetables, fruit, berries and grapes using the transport vehicles of procurement organizations. This progressive form of procurement is being more and more developed in the republic.

In 1982 100 percent of beets and milk, 93 percent of the livestock and poultry, 71 percent of the eggs, 56.8 percent of potatoes, 53.4 percent of vegetables, 53.1 percent of fruits and berries, 48 percent of grapes and melons and many other types of products procured in the republic were sold according to direct ties of the "field-processing enterprise" or "field-store" type.

A more effective form of procurement of products directly in the place of production, with centralized shipment using specialized transport vehicles belonging to procurement organizations, is being developed. In 1982 the proportion of centralized shipping in total agricultural procurement in the republic equalled the following: potatoes--6.3 percent, vegetables--15.1 percent, fruit--14.3 percent, livestock--35.5 percent and milk--15.4 percent.

However, the pace of centralized shipping of products from enterprises cannot be considered satisfactory. Moreover, among oblasts there is great differentiation in the proportion of centralized shipping within total procurement of agricultural products. For example, whereas this proportion in total livestock procurement in 1982 for enterprises of the Ukrainian SSR Ministry of the Meat and Dairy Industry was 71.1 percent in Chernigov Oblast, 57.9 percent in Kharkov Oblast and 57 percent in Ternopol Oblast, the figures were 13.9 percent in Zhitomir Oblast, 16.1 percent in Volyn Oblast and 19.1 percent in Khmel'nitskiy Oblast. The share of centralized shipping in total milk procurement volume varied from 55.2 percent in Ternopol and 48.5 percent in Ivano-Frankovsk oblasts to 2.8 percent in Odessa, 5.8 percent in Donetsk and 6.9 percent in Kirovograd oblasts.

In order to expand centralized procurement of agricultural products directly in the place they are produced, it is expedient to make a comprehensive study of the enterprise on the subject of its readiness to make a transition to "Tsentrovyvoz" [Centralized Shipping], since at the present time a significant number of kolkhozes, sovkhoses and inter-farm enterprises are not ready for this work. First of all it is essential to build paved approach roads in many enterprises, to equip loading-unloading platforms, to supply them better with scales and other equipment that corresponds to the technology being used, and to strengthen the material-technical base of transport vehicles belonging to the republic's procurement organizations and enterprises. This type of approach to the matter will provide advantages for both agricultural and industrial enterprises and will secure a curtailment of quantitative and qualitative losses of agricultural products. Kolkhozes and sovkhoses will be released from the function of shipping products sold to the state and will be able to focus their efforts on their assignment--to produce agricultural products.

One of the most important directions for improving the procurement of agricultural products is the improvement in planning its production. In particular, it is expedient to change the order for distributing plan goals on implementing production. The plan on the sale of products to the state should be distributed to oblasts not by ministries and departments, but by oblast agro-industrial associations directly, which must then distribute the plan to rayon agro-industrial associations, and those--to enterprises regardless of their departmental subordination.

The question of a transition to planning state procurement of cattle not in live but in slaughter weight became pertinent long ago. Recalculation according to standard coefficients for meat yield into live weight of livestock does not meet contemporary needs. First of all, standard coefficients for translating meat into live weight of livestock are antiquated and do not always reflect

the nutritional state of animals and the actual yield of meat, as a result of which the volumes of actual meat sales by enterprises are distorted. According to calculations by specialists, the use of coefficients decreases the recorded weight of one head of cattle by about 2-10 kilograms. Secondly, the transition to planning meat according to slaughter weight provides the opportunity to do away with labor-consuming and complex recalculations using standard coefficients to translate meat yield into live livestock weight. Thirdly, the transition to planning meat procurement according to slaughter weight will characterize the end results of agro-industrial production, i.e. the actual quality and quantity of meat sold to the state. Apparently, there should be a transition to planning the purchase, production and procurement of end products in other agro-industrial sub-complexes (that are involved in producing sugar, sunflower oil and so forth).

The evaluation of product quality, especially of milk sold to the state by kolkhozes and sovkhozes, is in need of considerable improvements. For many years in the dairy agro-industrial subcomplex most attention was given to increasing the production of milk and must less--to developing the dairy industry. As a result, disproportions developed between the possibilities of agriculture in the area of milk production and the capacities of the dairy industry to process it, which resulted in great production losses. The problem is intensified by the fact that the main quality indicator used to establish procurement prices for milk was fat content, whereas milk protein is basically the most valuable and essential nutritional element for man. The underestimation of the development of capacities in the dairy industry and of the role of milk protein in man's nutrition has resulted in the fact that about 40 percent of the milk protein produced in the country is fed to cattle, thereby being excluded from food resources.

In order to eliminate production losses in the dairy complex we should, in addition to expanding capacities to process milk, establish procurement prices for milk with a consideration not only of fat but of milk protein as well. The expenditure of milk to feed cattle should be curtailed by increasing the production of artificial milk for calves to levels equal to those in countries that have a highly-developed dairy industry. In essence, an improvement in the utilization of milk is no less important than growth in the size of the herd and in its productivity. A solution to this problem will enable us to significantly increase the production of dairy products for the population in a way that is less expensive and quicker and that requires fewer labor expenditures than increasing the size of the herd of cows.

The given article illuminates only some aspects of continued increased effectiveness of economic relations between agriculture and branches that procure and process agricultural products and deliver ready products to the consumer. According to the evaluation of specialists, an improvement in the use and preservation of agricultural products will enable us to increase the end output of grain by 20-25 percent, of vegetables, fruit and potatoes--by 30 percent, and of meat and milk--by 10-15 percent. The goal is to improve

⁷ KOMMUNIST, No 12, 1982, p 39.

production-economic ties between agriculture and the branches that implement the procurement, processing, storage and delivery of its products to the consumer and to achieve the utilization of these reserves still during the 11th Five-Year Plan, thereby facilitating a more rapid solution to the food problem in our country.

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CSO: 1824/121

FORESTRY AND TIMBER

INSTITUTE AID NEEDED FOR AILING PLYWOOD INDUSTRY

Moscow LESNAYA PROMYSHLENNOST' in Russian 24 Nov 84 p 2

/Article by A. Leshchevskiy, Leningrad - Moscow: "Among a Multitude of Minor Themes"/

/Text/ The foundation for effective development in our time -- the extensive introduction of scientific and engineering achievements into production. Such was the comment made by Comrade K.U. Chernenko in a speech delivered before a session of the Politburo of the CPSU Central Committee.

In this regard, it is difficult to exaggerate the role played by branch NII's /scientific research institutes/, the work of which is directly associated with the specific problems of industry. These branch scientific-research institutes are called upon to define the strategy and tactics for the technical re-equipping of enterprises and they must persistently find the means for ensuring maximum rates for their development. They are called upon and they must... but what is the case in actual practice?

Truth does not always surface on the basis of a vote, especially when the points of view are in conflict with one another.

At a Latvian plywood association, I was informed regarding the plywood institute: "It is our good partner. With its aid, we modernized the raw material market and many other sectors."

At Kostroma, they only shrugged their shoulders: 80 innovations were introduced over a period of 3 years and yet not one of them belongs to TsNIIF /Central Scientific Research Institute of Plywood/.

Why is the institute required for evaluating the operations of the Nauchfanprom NPO /Scientific Production Association/? What influence does an association exert on a sub-branch? There is an objective indicator -- the return per ruble of expenditure. Last year it amounted to 2.09 rubles for the scientists of Leningrad. It turned out that the money invested in science was not expended in vain.

"Not in vain," agreed the chief of the production administration for the industry of wood panels and plywood of USSR Minlesbumprom /Ministry of the

Timber, Pulp and Paper, and Wood Processing Industry/ V. Pintus, "However, we were expecting considerably more. In our case, the labor intensiveness involved in the production of a cubic meter of plywood is twice as high as the figure for other countries."

Exactly what do the leaders of the sub-branch expect to receive from the scientific association?

"A decisive forward step must be taken in the development of mechanization" stated V. Pintus, "It can be stated with a certain amount of exaggeration that today our equipment is not inferior to the foreign models. And yet at many enterprises the loading, unloading, sorting and selection of goods are being carried out manually. This is one of the prime reasons for our having fallen behind.

Are the scientists attempting to solve these tasks? Yes. The plan for scientific-research work includes the following theme: automation of the loading of plywood into a dryer and the delivery of chocks to a hulling machine. This is a very important study. The elimination of manual labor during the first of these operations alone will make it possible, at enterprises of the sub-branch, to release approximately 800 individuals for other work. Unfortunately however, the plan does not include any more such themes. Yes and the only one involves a relatively small amount of financing -- 179,000 rubles -- stretched out over a period of 5 years (for comparison -- over the course of a year's time, the institute performs more than 1 million rubles worth of research work). In other words, the scientists are annually devoting less than two hundredths of their attention to this task.

"They began fretting over minor concerns and were not concentrating on the principal one" stated the general director of the Nauchfanprom NPO N. Kachalin.

The institute truly has many small and local themes, not to mention non-plan tasks. One year ago our newspaper wrote of this in the article entitled "Changes in Resolute Planning." "Do you believe that something changed following our publication?" I was asked at TsNIIF.

"In all probability, our unfinished work plays a role here" stated the chief of the Technical Administration of USSR Minlesbumprom V. Solomonov, "But indeed an institute leader must not passively agree with all comments made. It is an important problem -- one must prove and defend his themes and the work schedules. I recently met with the pretentious director of TsNIIME /Central Scientific Research Institute of Mechanization and Power Engineering in the Lumber Industry/ V. Nemtsov. Anything he added to the plan he did so with great ceremony.

Firmness and high principles are required by both a production worker and a scientist, although it is always difficult to argue with a chief. But it was not by accident that we returned to a discussion on planning. In all fairness to the words uttered by V. Solomonov, it is noted that the trends in scientific studies must not be dependent upon the characteristics of a particular leader.

Let us now discuss the works which were added to the plan. Were all of them made available to the departments of the plywood combines. Not at all: in

1981, only 42 percent of the planned studies were introduced into operations, in 1982 -- 20.7 and in 1983 -- 57.9 percent.

"This came as no surprise" stated workers at the institute, "Many themes are developed for 5 years. Thus, by the end of the five-year plan the picture will be complete."

I would like to believe this. However, first of all the percentages cited above were computed based upon the number of completed works and, secondly, the experience of past years precludes the possibility of nourishing such illusions. A committee of USSR Minlesbumprom which inspected the NPO in 1982 noted that only 11 percent of the works carried out during the previous five-year plan were introduced into production. Moreover, the fate of the remaining works left much to be desired.

For example, the USSR State Committee for Science and Engineering tasked the plywood institute with the creation and development, under experimental-industrial conditions, of a technological process and the equipment required for ensuring the complete utilization of raw materials in plywood production and the manufacture of new types of plywood. Great importance is attached to carrying out this task successfully; indeed, present technological losses are "consuming" more than one half of the initial raw materials. And the new types -- ribbed and composite plywood -- were developed for the use of waste scraps. Is this not cause for demonstrating one's scientific potential? And it cannot be said that the theme did not involve work: the experiments cost 2,173,000 rubles. And the work has still not produced any results.

Obviously, nobody is insured against failures. But it is believed that in the branch science such failures should be more the exception rather than the rule. The TsNIIF scientists experienced adverse results in connection with a surplus: the production workers had no success with rotary shears or dryers with staggered roller placement and in the words of the head of the Plywood Technology Department at the Nauchfanprom NPO, I. Shulepov, such units hold no promise for the future. Is this the reason for the abundance of "unstudied areas?"

"No, we have a complete and comprehensive program" stated the deputy general director of the association for scientific work, V. Altukhov, "We move from one idea to another."

"One chief shortcoming of TsNIIF lies in the fact that its workers hold too narrow a view concerning the problem to be solved" stated the chief of the Soyuzfanspichprom VPO A. Smirnov, "Those same rotary shears are actually not bad, but they have not been included in the technological chain. They should be reworked somewhat, taking into account the requirements of the production workers -- and then the equipment would be very popular. Unfortunately, the scientists do not maintain close contacts with the strong combines and thus there is a great deal of waste.

Such is the situation. But why is it that the leaders of the all-union association to which Nauchfanprom is subordinate tolerate this situation? Moreover, this is particularly strange in view of the fact that the present

chief engineer of the VPO, A. Shnabel', served as the deputy general director of the Nauchfanprom NPO in the not too distant past. He is surely responsible for the status of the equipment and technology at the leading plywood association.

One and a half years ago, during a plenum of the Scientific-Technical Council of USSR Minlesbumprom, a number of serious claims were addressed against Nauchfanprom. For the sake of objectivity, we will note that the institute is attempting to reorganize its work. But the rates for carrying out such reorganization are still not satisfactory. Meanwhile, the status of affairs in the plywood industry is such today that it will be difficult to realize the changes desired if active assistance is not furnished by science.

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CSO: 1824/144

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DATE FILMED

21 Feb 1985